

**TEXAS DEPARTMENT OF STATE HEALTH SERVICES  
MEAT SAFETY ASSURANCE  
Austin, TX**

<h1 style="margin:0;">MSA Directive</h1>	6100.3 Rev. 1	11/12/19
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**ANTE-MORTEM AND POST-MORTEM POULTRY INSPECTION**

## **I. PURPOSE**

This directive instructs Circuit Manager Veterinarians (CMVs) and inspection program personnel (IPP) on how to perform ante-mortem and post-mortem inspection of poultry and of the conditions under which the birds are processed. It states that the sections 9A and 9B of the Meat and Poultry Inspection Manual on poultry are cancelled. This directive also instructs CMVs on how to make dispositions for some poultry diseases post-mortem and how to document the findings. This directive provides documentation procedures under the Public Health Information System (PHIS).

*KEY POINTS:*

- *Describes the ante-mortem and post-mortem inspection procedures for poultry*
- *Provides supplemental information regarding diseases and conditions, including "Woody Breast" and "White Striping"*
- *Explains how IPP inspect airsacculitis salvage operations*
- *Sets out how PHVs verify evisceration line speed process control and assess additional factors that may have an impact on the ability of IPP to perform proper inspection procedures*
- *Provides the documentation procedures for findings made during post-mortem poultry inspection, including the Animal Disposition Reporting (ADR) function in PHIS*

## **II. CANCELLATION**

MSA PHIS Directive 6100.3, *Ante-Mortem and Post-Mortem Poultry Inspection*  
MSA Notice 05-19, *Instructions for Kidney Dispositions in Poultry Carcasses*

## **III. BACKGROUND**

Under the PPIA, IPP are to perform ante-mortem and post-mortem inspection of poultry to prevent the entry into commerce of adulterated products. Products that are not adulterated qualify to bear to mark of inspection.

#### **IV. ANTE-MORTEM INSPECTION**

##### **A. Performing Ante-mortem Inspection**

1. IPP are to perform ante-mortem inspection on the day of slaughter (9 CFR 381.70(a)).
2. IPP perform ante-mortem inspection by observing poultry in coops or batteries before or after removal from the truck.
3. When performing ante-mortem inspection, IPP are to observe:
  - a. The overall condition of the birds, including the head, with attention to the eyes; the legs; and the body of the birds; and
  - b. Whether there are any unusual swellings or any other abnormalities on the birds.

**NOTE:** Signs of disease that inspection program personnel may observe on ante-mortem inspection include swelling about the head and eyes, edema of the wattles, gasping and sneezing, off-colored feces, diarrhea, skin lesions, lameness, torticollis (e.g., wry neck), and bone or joint enlargement.

##### **B. Suspect Poultry**

CMVs are to:

1. Designate as "Texas Suspect" any birds that on ante-mortem inspection do not clearly show, but the CMV suspects, may have any disease or condition that, under 9 CFR part 381, may cause condemnation of part or the entire carcass on post-mortem inspection (9 CFR 381.72(a)).
2. Verify that the establishment segregates birds identified as suspects on ante-mortem inspection. CMVs are to verify that the establishment slaughters the segregated birds separately.
3. Verify that the establishment releases poultry for treatment under the control of the appropriate State or Federal officials. CMVs are to notify the Central Office (CO) when he or she suspects a reportable or foreign animal disease (9 CFR

381.73).

### **C. Condemned Poultry**

CMVs are to:

1. Condemn on ante-mortem inspection any birds with diseases or conditions that, under 9 CFR 381.71(a), warrant such action.
2. Verify that the establishment does not allow birds condemned on ante-mortem inspection to enter the official establishment for slaughter, and that the birds are disposed of as provided in 9 CFR 381.95.
3. Ensure that birds that are dead-on-arrivals (COAs) are identified, counted, and weighed, and the number is reported to the IIP. IIP shall record this information within PHIS under establishment reporting.
4. Verify that COAs are not dressed nor conveyed into any department of the official establishment where poultry products are prepared or held.

### **V. VERIFICATION OF GOOD COMMERCIAL PRACTICES FOR POULTRY**

#### **A. Inspection Verification That Establishments Are Employing Good Commercial Practices for Poultry**

1. In poultry operations, employing humane methods of handling and slaughtering that are consistent with good commercial practices increases the likelihood of producing unadulterated product. MSA regulations describe the operating procedures that poultry processors must follow to ensure sanitary processing, proper inspection, and the production of poultry products that are not adulterated. Moreover, the PPIA (21 U.S.C. 453(g)(5)), as well as the Agency's regulations (9 CFR 381.90), provide that carcasses of poultry showing evidence of having died from causes other than slaughter are considered adulterated and thus must be condemned. The regulations also require that poultry be slaughtered in accordance with good commercial practices, in a manner that results in thorough bleeding of the poultry carcass and ensures that breathing has stopped before scalding, so that the birds do not drown (9 CFR 381.65(b)). Compliance with these requirements ensures that poultry are treated humanely.
2. During this records review, IPP are to ask the establishment for, and review, any records regarding good commercial practices. When reviewing these records, IPP are to assess whether there is evidence that the establishment is monitoring its good commercial practices in the receiving through pre-scald

areas. If IPP find that such records do not exist, or that they do not provide a basis to make a judgment on whether the establishment is following good commercial practices, they are to visit the establishment areas from receiving through pre-scald and make observations. If the records provide a basis upon which IPP can make a judgment that the establishment is following good commercial practices, then follow the directions in VII. B. 1.

**NOTE:** Establishments are not required to keep records of good commercial practices. However, if establishments do keep such records and make them available, IPP are to review the records.

3. During observation, IPP are to visit the receiving through pre-scald areas to observe (see section VII B for documentation):

- a. Whether establishment employees are mistreating birds or handling them in a way that will cause death or injury or prevent thorough bleeding or result in excessive bruising. For example, whether:
  - i. Establishment employees are breaking the legs of birds to hold the birds in the shackle or squeezing them into a shackle or otherwise mishandling birds while transferring them from the coops to the shackles;
  - ii. In cold weather, birds are frozen inside the cages or frozen to the cages themselves; or
  - iii. The birds are dead from heat exhaustion. The main observable symptom of heat stress in poultry is heavy panting.
- b. The handling and treatment of loose birds in the unloading and live hang areas. For example, are establishment employees driving over live birds with equipment or trucks;
- c. Whether stunning equipment is functioning properly. For example, a post-stun posture that includes arched neck and wings tucked in is visual evidence of an effective stun;
- d. Whether the bleeding equipment is functioning properly. For example, whether:
  - i. Birds are entering the scalding still breathing;
  - ii. There are increased numbers or clusters of cadavers at the inspection station; or
  - iii. There is other evidence that birds died other than by slaughter.

- e. Whether there is an increased number of bruised wings or legs; or
- f. Whether there are any other activities that will interfere with thorough bleeding of the birds, or could result in the birds still breathing at the time they enter the scalders.

## B. Documentation

1. If the establishment is adhering to good commercial practices, the CMV, IPP, or designee is to record the results in PHIS. Refer to the PHIS User Guide.
2. If the establishment is not following good commercial practices, as evidenced by birds dying other than by slaughter or not being bled out properly, the CMV, IPP, or designee is to document the noncompliance on a noncompliance record (NR). Refer to the PHIS User Guide. IPP are not to cite the Humane Slaughter Act of 1978 on the NR.
3. If the establishment is mistreating the birds, but the birds can still be fully bled and are not breathing when they enter the scalders, the CMV, IPP, or designee is to:
  - a. Discuss the mistreatment with the establishment management at the next weekly meeting;
  - b. Document the discussion and any planned actions on the part of the establishment in a memorandum of interview (MOI); and
  - c. Provide copies of the MOI to the establishment, the CMV, and the inspection file.

## VI. POST-MORTEM INSPECTION

### A. IPP perform post-mortem inspection by:

1. Observing the exposed hock joints for inflammation, exudate, or swelling that indicates synovitis (inflammation of the hock joint) (9 CFR 381.86);
2. Reflecting the flap (pulling the cut skin and muscle back) from the opening cut and observing the inner surfaces of the carcass for:
  - a. Yellow scabbed areas between the skin and subcutaneous tissue of the flaps that could indicate inflammatory process (IP) (9 CFR 381.86);
  - b. Exudate in, or cloudiness of, the air sacs that could indicate air sacculitis (9

CFR 381.84);

- c. Tissue masses or abnormal appearing tissue that could indicate tumors (9 CFR 381.87); and
- d. Enlarged or reddened kidneys that indicate infection or early sepsis (9 CFR 381.83).

3. Examining the viscera for:

- a. Gross enlargement or mottling of the spleen and liver that may indicate leukosis (9 CFR 381.82);
- b. Yellow or pale exudate on the heart and lungs that may indicate air sacculitis; and
- c. Hemorrhage, congestion, and swelling of the viscera, including the intestines, that may indicate sepsis.

4. Observing the carcass exterior looking for:

- a. Yellow, crusty skin lesions indicative of IP;
- b. Emaciation (wasted condition), a prominent keel bone, and dark skin and muscle indicative of sepsis;
- c. Skin lesions such as keratoacanthomas (see IX. C. 1. below);
- d. Breast muscle having a white or cooked appearance indicative of overscald (9 CFR 381.92); and
- e. dark red to purple skin on the carcass and neck that may indicate a cadaver or bird not bled out properly (9 CFR 381.90);

5. Instructing the "inspector's helper", if necessary, on disposition of abnormal or diseased carcasses (e.g., hang back, trim, salvage, or condemn); and

6. Instructing the "inspector's helper" on hanging back carcasses with associated viscera at the designated location on the inspection stand for further correlation with the CMV when necessary.

B. Post-mortem Dispositions

1. CMVs play a critical role in ensuring that the public health is protected by identifying and addressing poultry affected with disease conditions and by

ensuring that there is an appropriate disposition of affected carcasses and parts. The final responsibility for disposition determinations rests with the CMV. CMVs are to conduct a thorough and complete post-mortem examination of carcasses or parts that are held for their final examination. In making dispositions, the CMV should use a consistent, systematic approach for evaluating the carcasses.

2. For example, if a CMV starts an examination with a carcass and then follows with the viscera then he or she should use this same method every time.

## **VII. DISEASES AND CONDITIONS – SUPPLEMENTAL INFORMATION**

A. This section provides disposition information for poultry conditions either not found in 9 CFR part 381 or supplemental information for conditions that are in the poultry regulations. Ascites, occult vaccine lesions, and keratoacanthomas are conditions not specifically described in 9 CFR part 381. If any of these conditions have progressed to systemic involvement, the carcass is to be condemned for septicemia (sep)/toxemia (tox). The CMV has regulatory authority under 9 CFR 381.80 to make disposition decisions on carcasses, organs, or other parts not specifically covered by regulations in 9 CFR 381.81 through 381.93.

B. Ascites: Broiler ascites is an abnormal condition occurring in young, rapidly-growing chickens. Rapid growth (resulting from nutritional and genetic improvements by the industry) may cause an increase in the oxygen demands on the chicken. The higher oxygen demand placed on the cardiopulmonary system of the chicken under stress leads to right heart failure and the subsequent accumulation of clear to amber fluid around the heart. The right heart failure may force the ascitic fluid into the abdominal cavity. Fluid is present in the body cavity at post-mortem in varying amounts. Ascitic fluid in the thoracic cavity may prevent inspection of the interclavicular air sac space. The liver may also present with a ground-glass appearance because of the deposition of fibrin on the surface.

1. IPP are to:

- a. Condemn birds with any amount of ascitic fluid present in the body cavity that also has signs of septicemia (9 CFR 381.83) or other disease conditions, including inflammatory lesions, tumors, or other degenerative conditions;
- b. Condemn birds with any amount of ascitic fluid present in the body cavity that prevents visualization of the interclavicular space; and

C. Occult Vaccination Lesions: Occult (obscured or concealed) vaccination lesions found in mature fowl are tissue responses to vaccines that laying hens receive at

10-14 weeks of age. Vaccines are administered in the muscle tissue of the breast, leg, wing, or tail, or subcutaneously in the dermis of the inguinal fold, neck, or wing web. Vaccine lesions may cause a reddened or inflamed area around the injection site, or a more severe lesion extending into the surrounding tissue. Adjuvants (or boosters) in vaccines generally cause the more extensive inflammatory reactions.

1. IPP are to verify that establishments slaughtering mature fowl in which occult post-vaccination lesions occur have considered vaccine lesions in their hazard analysis (9 CFR 417.2(a)).
2. IPP are to verify that, if an establishment determines that vaccine lesions are a food safety hazard reasonably likely to occur in their process, they have established a Critical Control Point (CCP) and met the other requirements of 9 CFR 417.2(c).
  - a. If an establishment determines that vaccine lesions are a food safety hazard reasonably likely to occur and has established a CCP, then IPP are to verify HACCP regulatory requirements for that CCP when they perform the routine HACCP verification procedure. IPP are to initiate a directed HACCP task to verify establishment handling of vaccination lesions if IPP notify them that the establishment's process is under questionable control.
  - b. If the establishment has considered vaccine lesions not reasonably likely to occur because they have a prerequisite program in place to assure removal of the lesions, then IPP are to verify the effectiveness of the prerequisite program by following the instructions in MSA Directive 5000.1.

D. Keratoacanthomas: Avian keratoacanthomas, previously known as "dermal squamous cell carcinomas," are lesions found in the skin of young chickens that arise from the feather follicle epithelium. At slaughter, the lesions may present as concave (curved surface), pitted areas up to ~2 cm in width. Avian keratoacanthosis is not a disease of public health significance.

1. IPP are to condemn carcasses with large coalescing (joining together) lesions (9 CFR 381.87).
2. IPP are to verify that the establishment trims the few, small lesions found on carcasses.

E. Cadavers:



1. Cadavers are poultry that die from causes other than slaughter or are not physiologically dead because of ineffective slaughter before they enter the scald vat and drown. Carcasses of poultry that die from drowning may exhibit signs of incomplete exsanguination (bleed-out), resulting in an unwholesome carcass. The skin of the carcass or neck is cherry red to purple.

**NOTE:** Cadavers can be differentiated from birds found DOA at the establishment.

2. A DOA carcass presented at post-mortem will typically be purplish in color, the viscera will be congested, and, depending on how long it has been dead, the viscera and carcass may exhibit signs of decomposition. Evidence of decomposition may include friable (soft and tears easily) visceral organs, carcass discoloration, and off-condition odor. IPP are to condemn the carcass and notify personnel who are to then verify establishment controls to prevent DOAs from entering the establishment. DOA carcasses should be condemned at ante-mortem inspection and not brought into the establishment (9 CFR 381.71).

F. Over scalded Carcasses: Cooking through or into the deep pectoral breast muscle of a poultry carcass in the poultry scald occurs in an over scald carcass. It is important for IPP to differentiate an over scald carcass from a hard scald carcass. Cooking of the most superficial surface of the superficial pectoral (breast) muscle occurs in a hard scald carcass. This produces a whitening of that surface.

1. IPP are to condemn carcasses cooked to over scald in the poultry scald to the level of the deep pectoral muscle (9 CFR 381.92).
2. IPP are to pass carcasses where the scald only produced a whitening of the superficial pectoral muscle.

G. Poultry Liver Dispositions: IPP are to condemn livers (9 CFR 381.78(a)) with any of the following conditions:

1. Fatty degeneration characterized by well-defined light spots. IPP are to consider livers with a uniform yellow color, resulting from excessive fat deposits (fatty infiltration), as wholesome. Fat birds, especially fowl and occasionally fryers, commonly have the uniform yellow colored liver;
2. Hemorrhages (excessive blood loss into the liver from the blood vessels that may appear as blood clots) or extensive petechiae (small perfectly round purplish red spots). Inspection program personnel are to consider the typical "paint brush" appearance as being insignificant;

3. Inflammation and necrosis;
4. Cirrhosis, tumor, and cyst. Inspection program personnel are to condemn livers with one large cyst or several small cysts;
5. Discoloration caused by gall bladder or bile duct abnormalities or post-mortem changes; or
6. A specific disease (e.g., enterohepatitis).

H. Poultry Kidney Dispositions: IPP are to condemn kidneys (9 CFR 381.78(a)) when:

1. Renal (kidney) or splenic (spleen) pathology is present;
2. Hepatic (liver) lesions cause liver condemnation;
3. Conditions require condemnation of all the viscera; or
4. Airsacculitis is present and the posterior (back) part of the carcass is salvaged for airsacculitis.

I. "Woody Breast" and "White Striping":

1. Signs of inflammation that may accompany "Woody Breast" muscle abnormalities can feature:
  - a. Swollen or firm breast muscles;
  - b. Scattered, small, pinpoint blood spots or patches (hemorrhages) of varying severity on surface of muscles, especially at the top or shoulder end of the breast fillet;
  - c. Thick, gelatinous, often blood-stained fluid and presence of deteriorated muscle tissue; and
  - d. One or both sides of the breast may be affected.
2. Inflammatory tissues are adulterated since they are unwholesome and unfit for human food thus establishments are required to remove them by trimming, as required for other trim defects. Breast muscle changes that do not exhibit active inflammatory signs, for example "White Striping" only, are considered a quality issue and do not necessarily require removal by trimming.

White striping of breast muscles is not consistently associated with inflammation or fibrosis.

3. If IPP have questions about identifying and trimming inflammatory tissue, they are to consult with their supervisor (IIC, PHV, Frontline Supervisor) or DO.
4. If IPP observe inflammatory tissue associated with “Woody Breast” in further processing, for example at deboning or packaging, IPP are to determine whether the product lot is usable. IPP are to make this determination based on the entire lot and not on individual defects within a product lot. Products fail examination per [9 CFR 381.145\(b\)](#) if defects are severe or numerous enough to affect the usability of the product. This is because there is not a zero tolerance for trimmable defects.
5. After considering any findings and making a determination that the process is out of control, IPP are to issue an NR using the PHIS Other Inspection Requirements task, to document that the establishment is producing product with inflammatory tissue that is not useable and is adulterated because it is unwholesome and unfit for human food citing [9 CFR 381.1](#).

## **VIII. AIRSACCULITIS SALVAGE OPERATIONS**

- A. 9 CFR 381.84 requires that establishments completely remove and condemn tissues affected with airsacculitis, including exudates, in carcasses not condemned. In addition, 9 CFR 381.84 requires condemnation of the whole carcass if there is evidence of extensive involvement of the air sacs, or if there is systemic change to the carcass. Establishments may have procedures in place to salvage carcasses by ensuring the removal of all affected tissues and exudates in a sanitary manner. Salvaged carcasses are subject to reinspection per 9 CFR 381.76(b)(3)(iii)(c).
  1. When establishments do not have airsacculitis programs, the inspector is to condemn airsacculitis affected carcasses.
  2. When establishments have airsacculitis salvage programs but choose not to salvage all affected carcasses, the inspector is to continue to identify birds eligible for salvage.
  3. When the specific production is extensively affected with airsacculitis, establishments with a salvage program may elect to suspend airsacculitis salvage for the entire specific production. When the establishment notifies the IPP that it wants to suspend salvage operations for the specific production, the IPP is to instruct the inspection team to condemn

salvageable birds.

**NOTE:** The establishment determines the size of the specific production, e.g., a lot, a house, an hour's production, or a day's production.

## **IX. HOW IPPs VERIFY EVISCERATION LINE SPEED PROCESS CONTROL**

### **A. Process Control**

1. To ensure that IPP can perform bird-by-bird inspection when inconsistencies of process control occur because of size, weight, class of bird, pathology, contamination, or presentation, IPPs are to perform presentation checks or otherwise assess presentation, including line speed checks, as often as necessary to assess process control and the ability of the IPP to perform bird-by-bird inspection, as required by the PPIA and the regulations, for pathology, contamination, and presentation.
2. IPPs are to adjust line speeds as necessary (9 CFR 381.76(b)(3)(iii)(b) regulations for proper presentation for each type of slaughter system and 9 CFR 381.76(b)(3)(ii)(a) for line speed based on health of each flock and the way birds are being presented to the inspector).

### **B. Heavy Young Chickens**

1. Data gathered during studies using broilers weighing 6 pounds or less with chickens having only a small amount of fat on the abdominal flap is the basis for the maximum line speeds in 9 CFR 381. At the time of the studies, IPP used only one hand to manipulate the abdominal flap to view the inside cavity of the birds. Today, many establishments process chickens weighing over 6 pounds. Heavy young chickens have more fat than the smaller birds, requiring IPP to use both hands to manipulate the fatter abdominal flaps for viewing the inside cavities of the birds. To accommodate the processing of these birds, IPP, in most cases, use both hands to perform the inspection.
2. To designate a heavier weight flock (average weight over 6 pounds), IPPs may randomly select and weigh 10 birds per specific production at the establishment's transfer station. If the average weight of the 10 young chickens exceeds 6 pounds, IPPs are to define the specific production as heavy young chickens and set the line speed accordingly. IPPs are to use this procedure of reducing the line speed if the IPP are routinely using both hands to reflect the flaps of the birds.

### **C. Missing or No Viscera Carcasses**

1. If a carcass has at least one major visceral part (heart, liver, or spleen) present, IPP can make a disposition based on inspection of that part and the carcass.
2. If the establishment presents a carcass with no viscera (some visceral parts present, but all three major organs are missing, or no viscera entirely), and IPP determine that they are unable to make a disposition, IPP are to retain the carcass for the CMV.
  - a. If IPP begin to observe no viscera carcasses presented with a disease condition or abnormality in the specific production that requires the presence of the viscera for IPP to make a disposition, then IPP are to retain the carcasses and notify the CMV.
  - b. CMVs are to assess the specific production, if necessary. If no condition is present that would prevent IPP from making a disposition on the "no viscera" carcasses, then the CMV is to direct IPP to continue with post-mortem inspection on that specific production. If a condition is present that influences the disposition determination of the "no viscera" carcass, the CMV is to direct IPP to hang back the "no viscera" carcasses for final disposition by the CMV. CMVs may also conduct a presentation check.

## **X. POULTRY POST-MORTEM DOCUMENTATION**

Documenting requirements of the IPP for Poultry Post-mortem Inspection are:

- A. Track and record condemnations as they occur during processing.
- B. Ensure that they receive the number of plant rejects at the end of each shift. Plant rejects are carcasses rejected by the establishment before inspection or at re-inspection.
- C. Transfer the totals to the Animal Disposition section of PHIS. Refer to the PHIS User Guide.

## **XI. QUESTIONS**

Refer questions through supervisory channels.



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