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BOVINE MYCOBACTERIOSIS (M.bovis) DISPOSITION GUIDELINE

I. PURPOSE

This directive provides procedures for ante-mortem and post-mortem inspection and disposition guidelines for livestock suspected of bovine mycobacteriosis (M.bovis).

II. CANCELLATIONS

MPI Manual, Parts 9.17(a)8; 11.5(i)(11)(i)(ii); 21.4(d)(1),(2), and(3); 21.6(a)(1)c
FSIS Notice 56-93, dated 10/5/93

III. [RESERVED]

IV. REFERENCES

MPI Regulations, Sections 310.2 and 311.2
APHIS Regulations, 9 CFR 50,77
FSIS Directive 6200.1, 9/8/86

V. ABBREVIATIONS AND FORMS

The following will appear in their abbreviated form in this directive:

APHIS	Animal and Plant Health Inspection Service
ID	Identification
IIC	Inspector in Charge
NVSL	National Veterinary Services Laboratory
VS	Veterinary Services
VMO	Veterinary Medical Officer

FSIS Forms:
- 6000-13, Certificate of Ante-Mortem or Post-Mortem Disposition of Tagged Animals
- 6150-1, Identification Tag Ante-Mortem
- 6200-10, Ante-Mortem and Post-Mortem Inspection Summary (Cattle)
- 6200-14, Daily Disposition Record

APHIS VS Forms:
- 1-27, Permit for Movement of Restricted Animals

6-35, Report of Tuberculous Lesions or Thoracic Granulomas in Regular Kill Animals
10-4, Laboratory Request
10-23, Retain Sticker

VI. PROCEDURES

A. Ante-mortem Inspection

1. Any animals found by APHIS to react positively to a tuberculin test will arrive at establishments under authority of a VS Form 1-27, and each animal will have an eartag designating it as a "USDA reactor." The establishment is responsible for ensuring those animals are kept segregated from all other animals and are identified as tuberculin reactors to the FSIS VMO before ante-mortem inspection begins.

a. The VMO will perform a complete physical examination, which includes taking the animal's temperature and recording the examination results on FSIS Form 6150-1.

b. Livestock bearing official "USDA Reactor" eartags shall not be identified with a "U.S. Suspect" tag, but the reactor tag number shall be recorded on the FSIS Form 6150-1.

c. Livestock that are dead on arrival, died in the pens or were inspected and condemned by a VMO shall be given a complete post-mortem examination by a VMO in an area designated for inedible product or in another area within the premises of the establishment that is separated from any area where edible product may be located and is otherwise acceptable to the VMO. The examination will include the expanded post-mortem procedure as detailed in MPI Guideline No. 4, "Inspection of Tuberculin Reactors," available from the Regional Office.

2. Animals identified by APHIS as "tuberculosis-suspect" or "tuberculosis-exposed" animals and designated as such by the VS Form 1-27 must be so identified by establishment personnel and2 kept segregated from all other animals before ante-mortem inspection will be performed by the VMO.

3. The establishment's lot identification system must be adequate to assure the FSIS VMO that all USDA reactor animals and product from such animals can be identified. When M-branded cattle (steers imported from Mexico) are observed upon ante-mortem inspection, the blue metal eartags shall be collected by establishment personnel from all cattle in the M-branded lot for trace-back purposes, if necessary.

B. Post-mortem Inspection

1. Tuberculin-reactor animal.

a. During post-mortem inspection, the VMO shall:

(1). Perform the expanded post-mortem inspection procedures as detailed in MPI Guideline No. 4, "Inspection of Tuberculin Reactors."

(2). Record observations of all granulomatous lesions on FSIS Form 6200-14.

b. The VMO will use professional judgment in making the appropriate presumptive diagnosis, based on all gross pathology, stage of the disease, and the overall condition of the carcass. The carcass shall be disposed of in accordance with the MPI Regulations, Section 311.2.

2. Tuberculosis-suspect animal.

a. If on regular post-mortem examination, tuberculous-like lesions are detected, the VMO shall:

(1). Perform the expanded post-mortem procedures as detailed in MPI Guideline No. 4, "Inspection of Tuberculin Reactors."

(2). Record observations of all granulomatous lesions on FSIS Form 6200-14.

(3). When the VMO suspects a carcass may be affected by M.bovis and believes laboratory analysis will aid in making the diagnosis, he/she will submit tissues to the NVSL and will retain the carcass until histopathology results are received.

(4). Include a VS Form 10-4 and all available identification with the tissue specimen(s) being submitted to NVSL.

b. The VMO will use professional judgment in making the appropriate presumptive diagnosis, based on all gross pathology, stage of the disease, and the overall condition of the carcass. The carcass shall be disposed in accordance with the MPI Regulations, Section 311.2.

c. Histopathology results from NVSL indicating that the lesions from a retained carcass are "compatible" with or "suggestive" of mycobacteriosis shall be considered positive for M.bovis. The carcass shall be disposed of in accordance with the

MPI Regulations, Section 311.2.

3. Tuberculosis-exposed animal.

a. During post-mortem inspection, the VMO shall:

(1). Perform a modified expanded inspection procedure by incising the supramammary and mesenteric lymph nodes, in addition to the regular post-mortem inspection procedures, on all VS-identified tuberculosis-exposed animals sent to slaughter accompanied by VS Form 1-27.

(2). Record observations of all granulomatous lesions on FSIS Form 6200-14.

(3). When the VMO suspects a carcass may be affected by M.bovis and believes laboratory analysis will aid in making the diagnosis, he/she will submit tissues to the NVSL and will retain the carcass until histopathology results are received.

(4). Include a VS Form 10-4 and all available identification with the tissue specimen(s) being submitted to NVSL.

b. The VMO will use professional judgment in making the appropriate presumptive diagnosis, based on all gross pathology, stage of the disease, and the overall condition of the carcass. The carcass shall be disposed in accordance with the MPI Regulations, Section 311.2.

c. Histopathology results from NVSL indicating that the lesions from a retained carcass are "compatible" with or "suggestive" of mycobacteriosis shall be considered positive for M.bovis. The carcass shall be disposed of in accordance with the MPI Regulations, Section 311.2.

4. An animal that is not a reactor or tuberculosis-suspect or tuberculosis-exposed, but has been found during inspection to have thoracic granuloma(s) or any other lesion(s) suspected to be tuberculous.

a. If on post-mortem examination tuberculous-like lesions are detected, the VMO shall:

(1). Perform the expanded post-mortem inspection procedures as detailed in MPI Guideline No. 4, "Inspection of Tuberculin Reactors."

(2). When the VMO suspects a carcass may be

affected by M.bovis and believes laboratory analysis will aid in making the diagnosis, he/she will submit tissues to the NVSL and will retain the carcass until histopathology results are received.

(3). Include a VS Form 6-35 and all available identification with the tissue specimen(s) being submitted to NVSL.

b. The VMO will use professional judgment in making the appropriate presumptive diagnosis based on all gross pathology, stage of the disease, and the overall condition of the carcass. The carcass shall be disposed of in accordance with the MPI Regulations, Section 311.2.

c. Histopathology results from NVSL indicating that lesions from a retained carcass are "compatible" with or "suggestive" of mycobacteriosis shall be considered positive for M.bovis. The carcass shall be disposed of in accordance with the MPI Regulations, Section 311.2.

C. VS Categories and Handling Procedures for Tuberculosis-Exposed and Tuberculosis-Suspect Animals

1. Tuberculosis-exposed: Animals known to have been exposed to M.bovis. These animals fall into the categories listed below:

Category 1 - Animals that have been moved from an infected herd before the time infection was disclosed, but after the herd had apparently become infected. When traced, these animals are critical for establishing the disease status of the receiving herd.

Category 2 - Animals that are part of a known infected herd. These are test-negative or untested animals which may move to slaughter as regular culls or by entire herd depopulation.

Category 3 - Animals in herds that have been directly exposed to tuberculosis, but M.bovis infection has not been confirmed in the herd. Test-negative or untested animals may move to slaughter as regular culls or by entire herd depopulation.

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Category 4 - Young animals nursing a reactor dam.

a. Tuberculosis-exposed animals can only move to slaughter. The movement must be from the farm directly to the slaughtering establishment and the animals must be accompanied by VS Form 1-27. Exposed animals must have an approved metal ear tag and be branded with the letter "S" on the left jaw. In lieu of branding, the animals may be accompanied to slaughter by an APHIS or State representative or shipped in a vehicle that has been closed with an official seal (9 CFR, Sections 77.5(b)(1)). The function of the APHIS or State representative is to assist the IIC which may involve correlating ID devices, collecting and submitting tissues, and assisting in the post-mortem examination, if requested.

b. Until M.bovis infection has been confirmed in a herd, all tuberculosis-exposed animals are critical diagnostic subjects which require tissue submissions at slaughter for laboratory examination whether or not tuberculosis lesions are detected. Therefore, Category 1 animals which have been traced from a known infected herd to a new herd are of critical diagnostic value for establishing the new herd's disease status. After M.bovis infection has been confirmed in a herd, exposed animals no longer have critical diagnostic value. Normally, only gross lesions detected at slaughter are submitted for laboratory examination in order to monitor disease eradication progress in the herd and to aid in the carcass disposition decision.

2. Tuberculosis-suspects. Suspects are tuberculin test-positive animals in a herd of unknown tuberculosis status for which follow-up diagnostic procedures are required to determine whether the animals are affected with M.bovis tuberculosis. Suspects may be retested or be examined on post-mortem inspection. Suspects can only move to slaughter. The movement must be directly from the farm to the slaughtering establishment. The animals must be accompanied by VS Form 1-27. Suspects are identified with an official metal eartag. All suspects have critical diagnostic value for determining the herd's tuberculosis status. Suspect animals may be accompanied to slaughter by an APHIS or State representative or shipped in a vehicle that has been closed with an official seal.

D. Collecting Identification Devices

1. The FSIS VMO must ensure that ID devices collected at slaughter match the affected carcasses to which the devices correspond.

2. A "house tag" must be placed in the same plastic bag as the brucellosis blood sample and other identification devices on all cow and bull carcasses. This provides an alternative carcass identification method that may be used to ensure accurate matching of IDs with carcasses is achieved. Other methods of identification may be used upon approval of the Circuit Supervisor.

3. When M-branded cattle (steers imported from Mexico) have been identified, establishment employees will collect the blue metal eartags from such cattle and place these tags in the plastic bags containing "house tags." An alternative carcass identification method may be used provided that an accurate matching of IDs with carcasses is achieved.

4. All metal eartags from tuberculosis-exposed or tuberculosis-suspects will be collected by establishment employees and placed in the plastic bags containing "house tags." An alternative carcass identification method may be used provided that an accurate matching of IDs with carcasses is achieved.

VII. PREPARATION OF TISSUES. The following procedures should be used to prepare tissue for testing:

A. Remove excess fat.

B. Divide lesions as follows:

1. For histopathology, include normal tissue and cut into block(s) approximately 1/2" and place in formalin at a 1:10 tissue to preservative ratio.

2. For bacteriologic examination, cut a block approximately 1 to 2 inches thick and place in sodium borate solution at 1:1 tissue to preservative ratio. Once a lesion is suspected as tuberculous, it should not be further incised. Incisions create more surface area and sodium borate acts as a bactericide.

C. If not enough tissue is available to be divided for both histopathological and bacterilogic analyses, send the entire tissue for histopathological examination.

D. Use an indelible pen to write the serial number of the VS Form 6-35 or VS Form 10-4, eartag number, and the "U.S.

Retained" tag number on the labels of the specimen bottles.

E. Tighten caps and seal with masking tape.

F. Send the tissue samples in formalin and sodium borate solution bottles, using the special black and yellow striped mailer box, to NVSL, 1800 Dayton Road, P.O. Box 844, Ames, IA 50010.

G. Histopathology results are reported via FAX to the appropriate FSIS Area Office within 24 hours after receipt of the sample.

H. NOTE: Sodium borate solution is a supersaturated solution. It is normal to see crystals in the bottles containing the solution.

VIII. PREPARATION OF FORMS TO REPORT LESIONS

A. The following forms are to be used in reporting lesions:

1. VS Form 1-27, Permit for Movement of Restricted Animals. This form accompanies M.bovis reactors, suspects and exposed animals sent to slaughter. The original (white) copy accompanies the shipment and is placed in VS Form 1-14 (white envelope with red print) or similar State envelope. The green copy is mailed, with an enclosed self-addressed envelope, by VS to the IIC at the slaughtering establishment. Once the animals are slaughtered, the VMO completes Items 26 through 31, retains the original copy and sends the completed green copy in the self-addressed envelope to VS.

2. VS Form 6-35, Report of Tuberculous Lesions or Thoracic Granulomas in Regular Kill Animals. This form will be completed only for tissues submitted from regular kill animals. Two copies of the form will accompany the specimen and the third copy will be retained by the VMO. Complete Items 1-20 of this form, including all available information for traceback purposes. Include a telephone number in Item 17, if the carcass is being retained pending laboratory results. Place the completed VS Form 6-35, along with the polystyrene box containing the specimens, in the black and yellow striped mailer and send to NVSL, 1800 Dayton Road, P.O. Box 844, Ames, IA 50010.

3. VS Form 10-4, Laboratory Request. This form will be used when tissues are submitted from M.bovis reactors, suspects, and exposed. (NOTE: Submit lesions from reactors only when specifically requested by VS.)

4. VS Form 10-23, Retain Sticker. This form is an

orange retained sticker that will be attached to the outside of the tissue shipping container to indicate that the carcass is being retained pending laboratory results.

5. FSIS Form 6000-13, Certificate of Ante-Mortem or Post-Mortem Disposition of Tagged Animals. This form will be issued by the VMO upon the request of establishment management after making the final disposition for M.bovis.

(NOTE: When the VMO's final disposition is "passed for cooking," it is entered in the disposition column as "passed for cooking." The same "passed for cooking" disposition is entered on the FSIS Form 6200-10, Ante-mortem and Post-mortem Inspection Summary - Cattle.)

6. FSIS Form 6200-14, Daily Disposition Record. This form will be used if establishment management elects to have the carcass condemned or decides not to ship to another official establishment under restriction. The VMO shall indicate in the narrative section of this form that "establishment management elected to have the carcass condemned." In addition to that statement, the VMO shall include the diagnosis of the disease or condition with a detailed description of the location and extent of lesions. Entries for M.bovis disposition may be coded using the key at the top of the form to describe the location and extent of lesions. Mark the appropriate disposition block, and enter the code number for the condition and the code number for the class of animal.

B. General information regarding forms for reporting lesions:

1. For information on the preparation and submission of FSIS Form 6200 Series, refer to FSIS Directive 6200.1, dated 9/8/86.

2. The container label of each specimen should have some means of identifying the specimen to the accompanying report. For example, each specimen bottle label should have the retain tag number, eartag number, serial number of VS Form 6-35 or VS Form 10-4, or any other identification number that ties the specimen to the correct report. (NOTE: Despite great care at the receiving point, the possibility of sample mixup exists any time labels are not positively identified to the accompanying report.)

3. Only one reporting form will be used for tissues from any single animal to avoid the possibility of more than one accession number being assigned to a single animal.

IX. FURTHER GUIDANCE

Any questions concerning this directive, please refer to the next level of supervision.

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