UNITED STATES DEPARTMENT OF AGRICULTURE
FOOD SAFETY AND INSPECTION SERVICE
WASHINGTON, DC

FSIS DIRECTIVE

6130.1
Revision 1

12/18/13

ANTE-MORTEM, POST-MORTEM INSPECTION OF EQUINES AND DOCUMENTATION OF INSPECTION TASKS

I. PURPOSE

This directive provides instructions to inspection program personnel (IPP) on how to perform ante-mortem inspection of equines before slaughter and post-mortem inspection of equine carcasses and parts after slaughter. Additionally, this directive instructs Food Safety and Inspection Service (FSIS) Public Health Veterinarians (PHVs) making ante-mortem and post-mortem dispositions of equines how to perform residue testing, verify humane handling, verify marking of inspected equine products, and document results using the Public Health Inspection System (PHIS).

II. CANCELLATION

FSIS Directive 6130.1, *Ante-mortem, Postmortem Inspection of Equines and Documentation of Inspection Task*, dated 6/28/13.

III. REASON FOR REISSUANCE

FSIS is reissuing this directive to include minor changes to the instructions to IPP how to record equine in the PHIS plant profile (see section V. C.). FSIS is also making other changes to reflect the implementation of Laboratory Information Management System (LIMS)-Direct and to clarify instructions concerning increased sampling for "repeat violators."

IV. BACKGROUND

A. The Federal Meat Inspection Act (FMIA) provides that there is to be an inspection of horses and other equines, among other species, to assess whether the carcasses of these animals are not adulterated, can be passed for human consumption, and are eligible to bear the mark of inspection (21 U.S.C. 604).

B. The FMIA requires that the slaughter or preparation of products of equines be conducted under inspection. FSIS regulations require that horse slaughter and preparation of products of equines be done in establishments that are separate from any establishment in which cattle, sheep, swine, or goats are slaughtered or their products prepared (9 CFR 305.2 (b)).

C. The Humane Methods of Slaughter Act of 1978 and 9 CFR Part 313 require that all livestock, including horses, slaughtered under inspection be handled humanely. Equines must be rendered insensible to pain (i.e. unconscious) before being shackled, hoisted, thrown, cast, or cut.

V. BEFORE START OF OPERATIONS

A. GRANT OF INSPECTION

1. Before issuing a grant of inspection for equine slaughter, a representative of the District Office (DO) is to verify that the establishment has:

    a. Sanitation Standard Operating Procedures;

    b. Performed a hazard analysis with supporting documentation;

    c. Developed a Hazard Analysis and Critical Control Points (HACCP) plan per 9 CFR 304.3; and

    d. A recall plan per 9 CFR 418.3.

2. The Frontline Supervisor (FLS) at or prior to the start of operations is to inform the establishment management of applicable FSIS regulatory requirements per 9 CFR 305.4.

3. Before recommending approval for the grant of inspection or the start of operations and as necessary, the FLS is to determine whether any modifications to establishment facilities or other conditions are necessary to meet regulatory requirements per 9 CFR 307.2. The FLS is to advise the establishment management that the establishment with deficiencies will not be issued a grant of inspection until specified changes necessary to meet regulatory requirements are made.

4. Upon acceptance and approval of the application for a grant of inspection, the DO is to issue a conditional grant, not to exceed 90 days, to allow the establishment time to validate its HACCP plan.

5. The DO through the FLS or the PHV is to ensure that IPP receive all equine-related training provided by the FSIS Center for Learning.

B. AWARENESS MEETING

1. Before the start of slaughter operations, the PHV-Inspector-in-Charge (PHV-IIC) is to review with the establishment the FSIS procedures used to verify humane handling (9 CFR Part 313), identification (9 CFR Part 320), inspection, and other regulatory requirements referenced in this directive (9 CFR 307.2). The PHV-IIC is to document the meeting in a Memorandum of Interview (MOI) with distribution to the establishment and government office files in accordance with FSIS PHIS Directive 5000.1,*Verifying an Establishment's Food Safety System,* Ch. 1, VIII. *Weekly Meeting*.

2. In addition, before the start of slaughter operations, the PHV-IIC is to review the information from this awareness meeting with the IPP assigned to the establishment.

C. ESTABLISHMENT PROFILE

Before the establishment begins operations, IPP are to verify that the establishment's PHIS profile includes the slaughter class "EQUINE." IPP are to enter data in PHIS using the equine slaughter class as

described in FSIS PHIS Directive 5300.1, *Managing the Establishment Profile in the Public Health Information System*. If the establishment profile does not include the option to select the equine slaughter class, IPP are to contact their DO to update the establishment's grant of inspection.

VI. HUMANE HANDLING AND ANTE-MORTEM INSPECTION OF EQUINES

A. HUMANE HANDLING

1. IPP are to follow instructions in FSIS Directive 6900.2 Rev. 2, *Humane Handling and Slaughter of Livestock*, for verifying establishment compliance with humane handling and slaughter requirements set forth in 9 CFR Part 313.

2. During official hours of operation and when performing official duties, IPP are to verify the humane handling of all equines on the official premises from the time of unloading up to the time of slaughter. IPP are to verify:

    a. Facilities and handling are maintained at a level to prevent equine injuries per 9 CFR 313.1.

    b. The humane handling, segregation, identification, and slaughter of equines identified as

    "U.S. Suspects" per 9 CFR Parts 309 and 313.

    c. The humane handling, identification, stunning, and disposal of equine identified as "U.S. Condemned" per requirements in 9 CFR Parts 309 and 313.

NOTE: IPP are to immediately contact the District Veterinary Medical Specialist (DVMS) or DO via the PHV or FLS regarding any questions regarding the humane handling of equines.

B. HUMANE ACTIVITIES TRACKING SYSTEM (HATS):

1. FSIS IPP are to follow instructions in FSIS Directive 6900.2 Rev. 2, *Humane Handling and Slaughter of Livestock*, to perform and document HATS activities. See Section VI. of this directive regarding instructions on how to document HATS activities.

2. IPP are to seek guidance and updated instructions from the DVMS on how to perform HATS activities at official establishments slaughtering equines.

C. ANTE-MORTEM INSPECTION OF EQUINES

PHVs or IPP under PHV supervision are to conduct ante-mortem inspection of equines. FSIS IPP are to follow the verification instructions for ante-mortem inspection that are found in FSIS Directive 6100.1, *Ante-Mortem Livestock Inspection*. IPP are to conduct such inspection per instructions in this directive.

1. IPP are to observe:

    a. Equines at rest from outside the pen; and

    b. Equines in motion.

2. IPP are to perform ante-mortem inspection and accept only animals capable of producing products

acceptable for use as human food. IPP are to pass equines for regular slaughter when ante-mortem inspection does not reveal diseases or abnormalities.

3. IPP while conducting ante-mortem inspection are to direct establishment employees to segregate all equines found to have any abnormalities or disease conditions into designated (suspect) pens for further examination by a PHV. Such additional inspection ensures removal from human food channels of equines that are:

    a. Obviously unfit for human food because of diseases or abnormalities;

    b. Have diseases or conditions that are difficult to detect on routine post-mortem inspection (e.g., central nervous system disorders, lameness, and chemical poisoning). See 9 CFR Part 309;

    c. Febrile or appear to be ill, depressed, or with a fever; or

    d. Showing indications of zoonotic or reportable diseases as listed in FSIS Directive 6000.1, *Responsibilities Related to Foreign Animal Diseases (FADs) and Reportable Conditions - Revision 1.*

4. PHVs are to pass for slaughter with restriction suspect equines eligible for slaughter as "U.S. Suspects" per requirements in 9 CFR 309. 2.

5. In accordance with FSIS Directive 6000.1, *Ante-Mortem Livestock Inspection*, PHVs are to identify as "U.S. Condemned" any equines that found on ante mortem inspection to be:

    a. Dead or in a dying condition when offered for slaughter on the premises of the official establishment;

    b. Plainly showing on ante-mortem inspection any disease or condition that, under 9 CFR Part 311, would cause the PHV to condemn the carcass when inspecting post-mortem;

    c. Febrile with a temperature of 105^{o}F or higher (9 CFR 309.3(c));

    d. In a comatose or semi-comatose condition; or

    e. Other condemnable condition per 9 CFR Part 309.

VII. EQUINE POST-MORTEM INSPECTION

A. Head Inspection: IPP are to:

1. Observe head surfaces, and

2. Observe and palpate (incise when necessary) mandibular, pharyngeal, and parotid lymph nodes; guttural pouch; and tongue.

B. Viscera Inspection: IPP are to:

1. Observe and palpate lungs and bronchial and mediastinal lymph nodes (incise when abnormal);

2. Incise and observe heart as for cattle;

3. Observe and palpate spleen, liver (both surfaces), and portal lymph nodes;

4. Open the hepatic (bile) duct as for cattle; and

5. Observe remaining viscera including kidney if removed from the carcass and body cavities.

C. Carcass Inspection: IPP are to perform carcass inspection of equines using the same basic methodology used on cattle as described in FSIS Directive 6100.2, *Post-mortem Livestock Inspection*. IPP are to perform carcass inspection after carcass splitting and before washing. Depending upon facilities available and after approval by the FLS, IPP have two (2) approaches to carcass inspection. IPP may inspect equine carcasses by the quarters (i.e. hind quarters or forequarters; or high and low) or by the side (i.e. side by sides).

1. Carcass Inspection by the Quarters: Similar to inspecting beef carcasses on a high-low final rail, IPP inspect the carcass and viscera as follows:

    a. Hindquarter inspection. Used where viscera and carcass inspections are combined. For each hindquarter on each side:

        i. Observe back of skinned carcass after it has been eviscerated.

        ii. Palpate superficial inguinal, or supramammary, and internal iliac lymph nodes.

        iii. Observe body cavities.

    b. Perform viscera inspection per B. above.

    c. Forequarter inspection. It completes carcass inspection started under "hindquarter inspection." For each forequarter on each side:

        i. Observe cut surfaces of muscles and bones, peritoneum, and diaphragm's pillars;

        ii. Observe and palpate kidneys and diaphragm in the carcass; and

        iii. Observe pleura, neck, and carcass exterior.

2. Carcass inspection by the sides. Alternatively to inspection by the quarters, IPP inspect each side of the carcass to complete carcass inspection. This is typical with other livestock (e.g. cattle) carcass inspection on moving chains with separate carcass inspection stations. Carcass inspection is performed after viscera inspection and splitting of the carcass as follows:

    a. Palpate superficial inguinal, or supramammary, and internal iliac lymph nodes;

    b. Observe lumbar region;

    c. Observe and palpate kidneys;

    d. Observe diaphragm's pillars and peritoneum;

    e. Observe and palpate diaphragm; and

f. Observe pleura, cut surfaces of muscles and bones, neck, and carcass exterior.

3. Additional carcass inspection. IPP perform the following additional inspections on all or particular retained equine carcasses. IPP are to observe (and incise when necessary):

a. The inner abdominal walls for encysted parasites when IPP observe inflammatory lesions as nodules in the equine stomach, ceacum, colon, or fat along the abdominal wall. IPP are to condemn and verify affected organs and parts are condemned and removed by trimming.

b. The "topped" withers after the carcass has been skinned, and before splitting the carcass. The upper third of the spinous processes of thoracic vertebrae two through nine are removed and presented for inspection. IPP verify there is no evidence of inflammation and infection that may be occasionally be found in the supraspinous bursa in the withers area.

NOTE: Lesions in this area (fistulous withers) are commonly the result of *Brucella abortus* infection. The incidence of brucellosis in these lesions is high and humans can contract brucellosis. The PHV is responsible to verify IPP and establishment employees maintain sanitary conditions, sanitary implements, and sanitary dressing procedures. IPP in contact with such lesions are to thoroughly wash hands and avoid placing their hands about their face. IPP are to always retain the carcass and parts for veterinary disposition when brucellosis is suspected.

c. The axillary, perineal, and subscapular spaces of gray and white equines for melanosis and metastatic or invasive melanomas. To accomplish this observation effectively, the FLS and PHV are to arrange with the establishment procedures to identify carcasses of white and gray horses after the hide has been removed. To ensure detection of melanosis or metastatic melanoma lesions commonly seen in the axillary and subscapular areas of white or gray equines, per requirements in 9 CFR 305.4, 307.2, 310.2, and 310.3 and as requested by the FLS, the PHV may direct company personnel to routinely "drop the shoulders" of any or all white or gray equines. When "dropping the shoulders," the limb remains attached to the carcass. As usual, the PHV may perform other inspections as necessary at his or her discretion.

NOTE: The FLS or PHV may at the request of the establishment allow the dropping of the shoulders of all white and gray horses to be accomplished on the following day after the carcass has chilled. The carcasses must be under FSIS control (U.S. Retained) until after the inspection is completed.

VIII. RESIDUE TESTING OF EQUINE

A. GENERAL

FSIS recognizes that most equines presented for slaughter will likely not have been raised for human consumption. Therefore, FSIS has concerns regarding the potential presence of chemical residues from drugs not previously approved for use in all food animals including equine. Because of these concerns about residues in horses, IPP should follow instructions in FSIS PHIS Directive 5000.1,*Verifying an Establishment's Food Safety System*, for verifying that the establishment that slaughters horses has addressed violative residues in its hazard analysis and that the establishment's HACCP system is effective in preventing horsemeat containing residues that would adulterate the meat under the FMIA from entering the human food supply.

In addition, FSIS expects many of the drugs used in working or pleasure horses are not antimicrobials and therefore would not be detected by FSIS in-plant antibiotic residue screening tests. Therefore, whenever

IPP collect equine tissues for residue sampling as instructed below, IPP are to submit those tissues directly to the specified FSIS laboratory where a complete residue analysis can be conducted. IPP are to select carcasses for residue verification testing according to the two selection methods described below.

B. RESIDUE SAMPLING WHEN IPP FINDINGS SUGGEST INCREASED RISK OF DRUG RESIDUES

IPP are to select carcasses for residue testing when ante-mortem or post-mortem findings suggest an increased likelihood of recent drug treatment. IPP are to use the existing residue policies (including retaining of carcasses) in FSIS Directive 10,800.1, *Procedures For Residue Sampling, Testing, and Other Responsibilities for the National Residue Program*, for residue sampling, testing, and verification of the establishment's residue program and test every time the IPP suspect that there is an increased likelihood of a violative residue. Also, IPP are to use the list of pathologies and conditions in FSIS Directive 10,220.3*,* as a reference for conditions warranting residue testing. IPP are to retain any carcass suspected of containing a drug residue and follow the sample submission instructions described in part D. of this section for selected carcasses. The policy for testing animals from producers that are listed on the Residue Repeat Violator Lists as described in FSIS Notice 52-13 also applies to horse slaughter.

C. RANDOM RESIDUE SAMPLING OF NORMAL-APPEARING ANIMALS

Because equines are not generally raised as food animals, FSIS will conduct random residue testing of normal-appearing animals to provide additional assurance that carcasses are free from drug residues. FSIS will conduct random testing of normal-appearing horses at least the same rate as for show livestock as described in FSIS Directive 10,800.1, *Procedures for Residue Sampling, Testing, and Other Responsibilities for the National Residue Program*. IPP are to randomly select, on the slaughter floor from normal-appearing equine, from every lot of animals that passes ante-mortem as follows:

1. A minimum of 1 animal if there are 1 to 10 animals in a lot;

2. A minimum of 2 animals if there are 11 to 50 animals in the lot;

3. A minimum of 3 animals if there are 51 to 100 animals in the lot; and

4. A minimum of 4 animals if there are more than 100 animals in the lot.

IPP are to retain the selected carcasses and follow the sample submission instructions in paragraph D. of this section

D. SUBMITTING RESIDUE SAMPLES

1. From each equine carcass selected for residue sampling under the two scenarios (i.e. paragraphs B and C) above, IPP are to collect two (2) separate one pound muscle samples; and

    a. Submit one sample containing one pound of muscle to the Western Lab (WL) where it will be tested for pesticides; and

    b. Submit the other one pound sample from each carcass to the Eastern Lab (EL) where it will be tested for multiple chemical class residues and contaminants.

2. IPP are to follow the instruction provided in FSIS PHIS Directive 13,000.2, *Performing Sampling Tasks in Official Establishments using the Public Health Information System,* and FSIS Notice 58-12, *Scheduling and Submitting Lab Samples in PHIS,* on sample collection and submission of

inspector-generated residue samples for laboratory testing. IPP are to create and schedule the sampling task in PHIS by entering the animal information in the Daily Disposition Record Detail page of the Animal Disposition section of PHIS and clicking on "Add Lab Sample Collection." IPP are to select CG_RES_EQ in the Project Code drop-down menu in the Sample Management window of PHIS:

3. After IPP have entered the appropriate information about the sample in PHIS and submitted the form to the labs electronically, they are to print two (2) copies of the submission form and include one form in each sample box. Ignore the fact that both sample forms will state that the Eastern Lab is the destination for the sample. IPP are to put one form in each sample box and ship one box to the Eastern Lab and one to the Western Lab.

E. ACCESSING TEST RESULTS

1. IPP are to periodically access LIMS-Direct to check the status of tissue samples submitted for chemical residue testing. FSIS Notice 46-13, *LIMS-Direct to Replace LEARN for Sampling Data Reporting*, provides complete information on how to access laboratory results on the FSIS intranet. Test results are reported in PHIS upon completion of the sample analysis. IPP can also access test results in PHIS through the Laboratory Sample data field on the Inspector Home page.

2. IPP are to provide a printed copy of the test results from LIMS-Direct to establishment management and inform the establishment that it can receive sample results by email if it provides an email address to the IIC, who will enter it into the establishment profile information in PHIS. IPP are to advise establishments to add to their address book OPHSLearn@fsis.usda.gov to ensure the emails are not blocked. IPP are to provide a printed copy of sample results to the establishment regardless of whether the establishment receives results via email.

3. Sample discard: If the FSIS Laboratory discards a sample submitted for chemical residue testing, IPP are to take appropriate action based on the reason for sample discard. IPP are to review the reason for sample discard, as indicated in LIMS-Direct, and make the necessary adjustments in how they collect, seal, and ship the samples to ensure that the laboratory does not discard future samples because of improper handling or packaging

F. IPP ACTIONS UPON REPORTING OF TEST RESULTS THROUGH LIMS-DIRECT

1. IPP are to check LIMS Direct and review the test results. The PHV has to have the laboratory results from both the Western Lab and the Eastern Lab prior to making a disposition. The PHV is to make a final disposition on the carcass and parts and take any necessary regulatory enforcement actions once LIMS Direct indicates a status of "Analysis Complete" for the sample. LIMS Direct will not display the sample status as "Analysis Complete" until both the Eastern and Western laboratories have recorded their results.

    a. For residue test results reported as "Not Detected," the PHV is to inform the establishment that the test result is "in compliance" and release the carcass and its parts.

    b. For residue test results reported as "Detected – violative," the PHV is to condemn the carcass and all parts and notify the establishment of the results and the final disposition of the carcass and parts.

2. IPP are to notify the establishment of each new violation, any developing trends, and final disposition of any carcass and its parts at the next weekly meeting and document the meeting in a MOI.

3. When residue results are reported as violative, IPP are to verify that the establishment's residue control program meets the applicable regulatory requirements. In doing so, IPP are to follow the instructions in FSIS Directive 10,800.1, *Procedures For Residue Sampling, Testing, and Other Responsibilities for the National Residue Program.* IPP are to document noncompliance in PHIS when they determine that the establishment has not met applicable regulatory requirements.

4. IPP are to seek guidance through their supervisory chain of command for any questions regarding residue test results or action to take based on test results. IPP may also submit questions through AskFSIS, using the instructions provided in Section X of this directive.

NOTE: Additional information on how FSIS expects establishments to address residues in a HACCP environment is available in Federal Register: November 28, 2000 (Volume 65, Number 229).

IX. MARKING OF EQUINE CARCASSES, PARTS, AND PRODUCTS

A. IPP are to verify the official inspection legend used in the establishment. 9 CFR 312.3 identifies the official inspection legends that are to be used in equine slaughter establishments.

B. IPP are to verify that the establishment uses green ink that is approved to mark equine carcasses and product per 9 CFR 316.5(e).

C. IPP are to verify that the establishment marks equine carcasses, parts, and products per 9 CFR 316.12.

X. PERFORMING AND DOCUMENTING INSPECTION TASKS

A. Where no comparable PHIS FSIS Directive is published, IPP are to follow the instructions in the standard (non-PHIS) FSIS Directives for inspection activities applicable to all livestock slaughter and processing.

http://www.fsis.usda.gov/wps/portal/fsis/topics/regulations/directives/5000-series

B. When PHIS is not available, IPP are to contact the DO for additional instructions on how to determine what inspection tasks they are to perform, how often they perform the tasks, and how to document results.

C. Where FSIS Directives specifically provide instructions applicable to specific classes of livestock other than equine, and no specific direction is available for equine, IPP are to refer to and extrapolate instructions applicable to cattle when performing inspection procedures on horses after discussion with the PHV. The PHV may modify such instructions as appropriate. For example, IPP seeking guidance regarding sanitary dressing of horses are to refer to FSIS Directive 6410.1, *Verifying Sanitary Dressing and Process Control Procedures in Slaughter Operations of Cattle of Any Age - Revision 1*, until such information for equine is provided in a revised or new issuance.

XI. EXPORTS

IPP are to follow the instructions in FSIS Directive 9000.1, *Export Certification*, to certify exports of equine products for edible purposes. IPP are to refer to the FSIS Export Library opening page first for any general remarks about equine product exports, as well as the specific requirements for the country to which exports are being considered:

XII. QUESTIONS

Refer questions regarding this directive to the Policy Development Staff through askFSIS or by telephone at 1-800-233-3935. When submitting a question, use the Submit a Question tab, and enter the following information in the fields provided:

Subject Field:	Enter **Directive 6130.1**
Question Field:	Enter your question with as much detail as possible.
Product Field:	Select **General Inspection Policy** from the drop-down menu.
Category Field:	Select **Slaughter** from the drop-down menu.
Policy Arena:	Select **Domestic (U.S.) Only** from the drop-down menu.

When all fields are complete, press **Continue**.

Assistant Administrator
Office of Policy and Program Development