



Food Safety and Inspection Service
U.S. DEPARTMENT OF AGRICULTURE



Food Safety at Slaughter

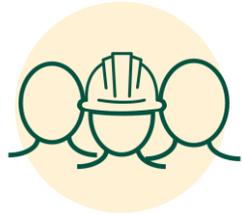
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Office of Policy and Program Development
USDA Food Safety and Inspection Service
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Our Mission

The Food Safety and Inspection Service is responsible for ensuring that meat, poultry and egg products are safe and that they are properly labeled and packaged.



Our Presence



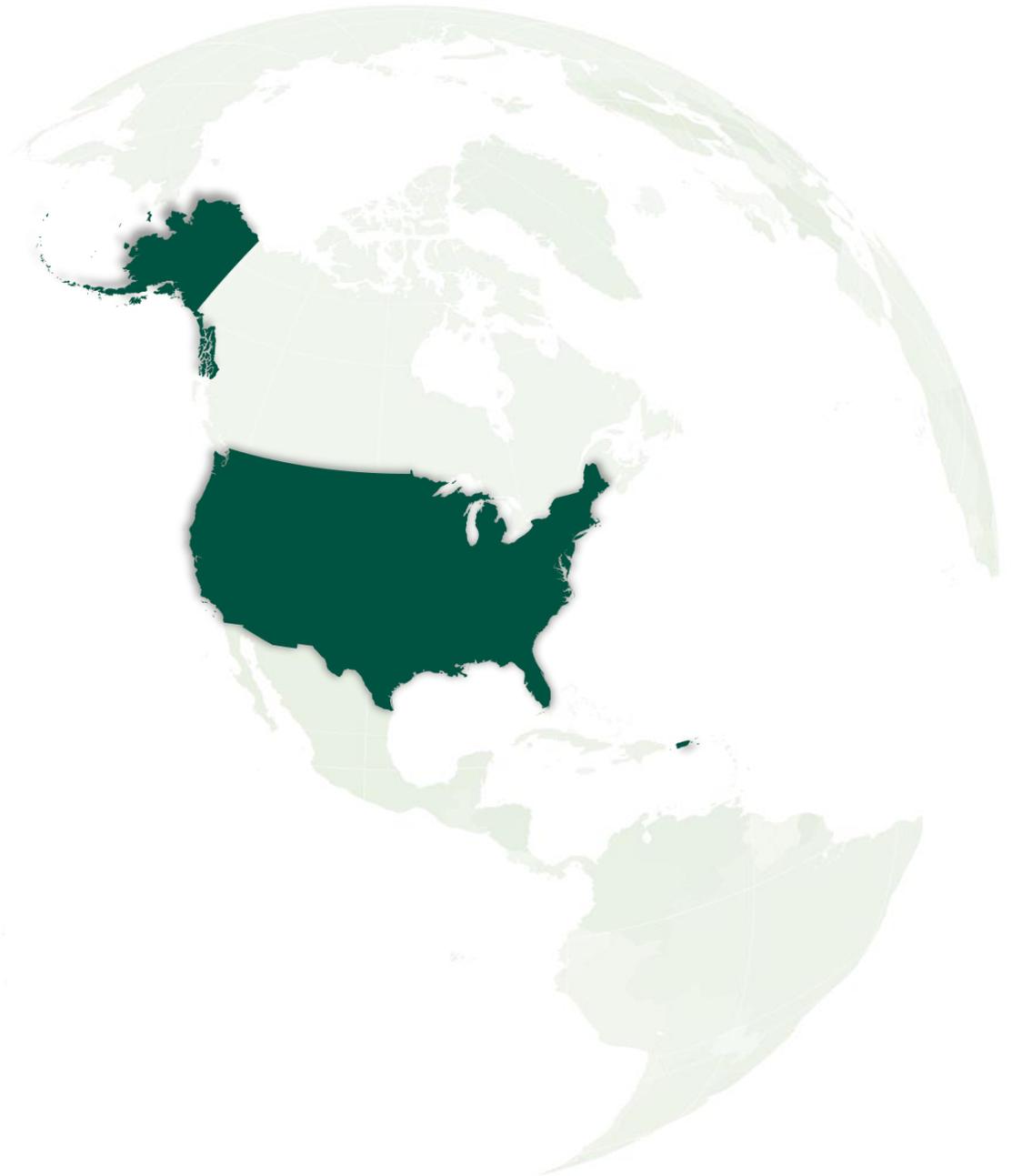
8,700
FSIS EMPLOYEES



7,800
FRONT LINE WORKFORCE



6,500
FEDERALLY REGULATED
ESTABLISHMENTS



Federal Acts Governing FSIS



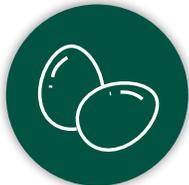
Federal Meat Inspection Act (FIMA), 1906



Agricultural Marketing Act (AMA), 1946



Poultry Products Inspection Act (PPIA), 1957



Egg Products Inspection Act (EPIA), 1970

Humane Methods of Livestock Slaughter Act, 1958

Food Safety at Slaughter

- FSIS ensures food safety at slaughter through:
 - Robust ante-mortem and post-mortem inspection procedures
 - Offline verifications to determine whether establishments implement effective sanitation and food safety systems
 - Verification sampling programs

Ante-mortem Inspection

- ❑ FSIS examines livestock and poultry before slaughter to determine whether they show signs of disease or abnormalities and are fit to slaughter for human food
- ❑ Establishments identify and present animals for ante-mortem inspection on the day of slaughter
- ❑ FSIS examines livestock at rest and in motion
- ❑ FSIS examines poultry in cages or coops
- ❑ FSIS makes one of the three dispositions
 - Passed for slaughter and normal post-mortem inspection procedures
 - Passed for slaughter, but handled as a suspect animal
 - Condemned
- ❑ Only animals that pass ante-mortem inspection are allowed to enter the slaughter facility

Post-mortem Inspection

- ❑ The purpose of post-mortem inspection is to protect public health by ensuring that the carcasses and associated parts are wholesome, and not adulterated
- ❑ FSIS online inspectors examine livestock and poultry carcasses and associated visceral organs after slaughter to determine whether they show signs of disease or abnormalities and are fit for human food
- ❑ FSIS veterinarians are available to determine proper disposition of carcasses when inspectors detect abnormal conditions that require a thorough examination
- ❑ FSIS veterinarians can submit tissues for laboratory analysis to obtain additional information, when necessary

Offline Food Safety Verification

- ❑ FSIS verifies food safety at slaughter through Hazard Analysis and Critical Control Point (HACCP) and Sanitation regulatory requirements
- ❑ FSIS enforces HACCP regulations to verify that establishments adequately address food safety hazards through HACCP systems
- ❑ These HACCP systems are required to address all potential food safety hazards (i.e., chemical, physical, biological)
- ❑ Establishments' HACCP systems are specific to their processes and consider food safety hazards that may be introduced at any point in the process (i.e., live animal receiving, evisceration, preparation etc.)
- ❑ Establishments are required to demonstrate, through these HACCP systems, that their products are safe for consumption and unadulterated
- ❑ This places food safety responsibility on the establishment

Seven HACCP Principles

1. Conduct a Hazard Analysis
2. Determine Critical Control Points (CCPs)
3. Establish Critical Limits (CLs)
4. Establishment Monitoring Procedures
5. Establishment Corrective Actions
6. Establish Recordkeeping and Documentation Procedures
7. Establish Verification Procedures

Conduct a Hazard Analysis

- ❑ Identify Reasonably Likely to Occur (RLTO) hazards at each process step
 - Biological
 - Chemical
 - Physical
- ❑ The hazard analysis is required to include food safety hazards that can occur before, during, and after entry into the establishment
- ❑ Identify preventative measures
- ❑ Unique to each establishment based on the process and products
- ❑ Hazards considered inherent in the slaughter process include those introduced through live animals
 - Pathogens (biological)
 - Veterinary drug residues (chemical)

Develop Critical Control Points

- ❑ A CCP is a point, step, or procedure in the process where a control is applied to prevent, eliminate, or reduce a food safety hazard to acceptable levels
- ❑ CCPs include critical limits that must be met
- ❑ Examples of CCPs at slaughter include the chemical concentration and application of an antimicrobial solution, and zero amounts of fecal, ingesta or milk contamination on carcasses
- ❑ The CCP location is not required to be at the point where the hazard may be introduced into the process
- ❑ The CCP may be later in the process than the point the hazard may occur
- ❑ Establishments are required to maintain documents to support the CCPs

Establish Critical Limits

- CLs are the parameters that indicate whether the process is in or out of control at the CCP
- A CL is a maximum or minimum value, or a range of values
- These values must be measurable or quantifiable
- The CL parameters or values are based on scientific or technical support

Establish Monitoring Procedures

- ❑ CCP monitoring is a planned sequence of observations or measurements to assess whether a CCP is under control and to produce an accurate record for future reference
- ❑ Establishments development the CCP monitoring procedures
- ❑ Monitoring procedures should be designed to determine when the process is trending towards loss of control and when deviations from a CL occurs, so that establishments can adjust the process or initiate corrective actions when a deviation occurs
- ❑ Continuous monitoring and recording equipment is ideal
- ❑ When intermittent monitoring is used, the frequency should be adequate to determine that the CCP is under control
- ❑ Establishments are required to support their monitoring procedures and frequency

Establish Corrective Actions

- ❑ When a deviation from a CL occurs, corrective actions prevent unsafe or adulterated food from reaching consumers
- ❑ The specific corrective actions depend on the specific process and the type of product
- ❑ Establishments' HACCP plans are required to list these corrective actions
- ❑ These corrective actions are required to:
 - Identify the cause of the deviation
 - Ensure that the CCP is under control after the establishment implements corrective action
 - Include measures to prevent the deviation
 - Ensure that no product that is injurious to health or otherwise adulterated, as a result of the deviation, enters commerce

Establish Recordkeeping

- ❑ The HACCP system must have an effective recordkeeping system
- ❑ Records are evidence that documents the operation of the HACCP system
- ❑ Establishments are required to document daily operational records
 - All monitoring events (i.e., actual times, temperatures, or other quantifiable values)
 - Any corrective actions taken in response to a CL deviation
 - Verification procedures and results
 - Product name, identify, or slaughter production lot
- ❑ Establishments are also required to document their hazard analyses, HACCP plans, and any programs that they use to support their hazard analyses decisions.

Establish Verification Procedures

- ❑ Establishments' HACCP plans are required to include ongoing verification procedures to determine whether the HACCP system functions properly

- ❑ These procedures determine whether:
 - CCPs are accurately monitored

 - Process monitoring equipment is calibrated

 - Corrective actions are implemented

 - Records are accurately completed

Validation

- ❑ Validation is the scientific or technical basis to demonstrate that establishments' HACCP systems (i.e., CCPs and associated CLs) are sufficient to control hazards

- ❑ Validation consists of two parts:
 - 1) Scientific or technical information to show that the HACCP plan, including any programs to support the hazard analysis decisions, effectively control the hazards (i.e., scientific journal articles)
 - 2) Initial validation data that shows an establishment effectively implements its HACCP system

Unforeseen Hazards and HACCP Reassessment

- ❑ Establishments are required to reassess their HACCP plans at least annually and whenever any change occurs that could affect the hazard analysis or alter the HACCP plan
- ❑ Such changes may include changes in:
 - Source products or animals
 - Slaughter methods or systems
- ❑ Establishments are also required to reassess their HACCP plans when an unforeseen hazard arises.
- ❑ When either the establishment or FSIS identifies an unforeseen hazard that is not adequately addressed in the HACCP system, the establishment is required to take corrective actions, which include:
 - Perform a review to determine the acceptability of the affected product for distribution
 - Take action, when necessary, to the affected product to ensure that no product that is injurious to health or otherwise adulterated enters commerce
 - Segregate and hold affected product until the above review and actions are complete
 - Reassess the HACCP plan to determine whether to develop a CCP for the unforeseen

Sanitary Dressing

- ❑ Establishments are required to slaughter and process livestock and poultry in a manner that prevents carcass contamination
- ❑ Preventing carcass contamination is essential to ensure that subsequent antimicrobial interventions and other methods to control pathogens are effective
- ❑ Sanitary Dressing procedures include preventing contamination from:
 - Hide, skin, or feathers
 - Gastrointestinal tract
 - Hooves or paws
 - Employees, equipment, facilities
 - Aerosols

Sanitation

- ❑ Establishments are required to operate and maintain their facilities in a sanitary manner sufficient to prevent insanitary conditions and product adulteration
- ❑ Establishments are required to develop, implement, monitor, and maintain Sanitation Standard Operational Procedures (Sanitation SOPs)
- ❑ These Sanitation SOPs must include procedures conducted before and during operations
- ❑ Establishments are required to monitor the implementation of these procedures
- ❑ Establishments are required to take corrective actions when the implementation of the Sanitation SOPs fails to prevent product contamination
- ❑ These corrective actions must include:
 - Appropriate disposition of affected products (reconditioning or disposed as inedible)
 - Restoring sanitary conditions
 - Preventing recurrence of product contamination

FSIS Verification

- ❑ In addition to thorough ante-mortem and post-mortem inspection procedures, FSIS verifies regulatory compliance through:
 - HACCP and Sanitation verification tasks
 - Inspection Program Personnel (IPP) verify the implementation of HACCP plans , any programs used to support hazard analysis decisions and sanitation compliance
 - These tasks include review and observation and recordkeeping components
 - Hazard analysis verification tasks
 - IPP also verify the development of an establishment's HACCP system, including the hazard analysis and whether the establishment adequately supports its hazard analysis decisions and CCPs
 - Sampling tasks
 - IPP collect samples to verify the effectiveness of an establishment's HACCP system



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