PATHOGEN REDUCTION / HACCP

SLIDE 1: Food Safety and Inspection Service
Pathogen Reduction/HACCP

SLIDE 2: PR/HACCP Final Rule
The rule requires that establishments must:
- develop and implement written sanitation standard operating procedures
- develop and implement HACCP systems
- conduct routine testing of carcasses for generic *E. coli* in slaughter operations
- meet *Salmonella* performance standards
- meet *Salmonella* performance standards

SLIDE 3: PR/HACCP Final Rule
- January 27, 1997 - SSOP’s and *E. coli* testing in slaughter establishments
- January 26, 1998 - HACCP and *Salmonella* testing in large establishments
- January 25, 1999 - HACCP and *Salmonella* testing in smaller establishments
- January 25, 2000 - HACCP and *Salmonella* testing in very small establishments

SLIDE 4: Why the new regulatory approach?
1993 outbreak of foodborne illness caused by *E. coli* O157:H7 pathogen focused attention that the organoleptic system of meat and poultry inspection did not address the major cause of foodborne illness - which is pathogens

SLIDE 5: PR/HACCP Final Rule
Most important objective is to build into food production processes and the FSIS system of regulation and oversight, effective measures to reduce and control pathogenic microorganisms on raw meat and poultry products

SLIDE 6: HACCP
System of process control used by the industry to prevent hazards to the food supply and as a tool in the control, reduction and prevention of pathogens in meat and poultry

SLIDE 7: HACCP Regulatory Requirements
- Hazard analysis must be performed
- Flowchart describing steps in the process must be developed
- Intended use or consumers of the finished product must be described
- List food safety hazards
**SLIDE 8: HACCP Regulatory Requirements**
- List the critical control points
- List the critical limits
- List the monitoring procedures and frequencies
- List the corrective actions to be followed in response to deviation from a critical limit
- Maintain a recordkeeping system

**SLIDE 9: HACCP Regulatory Requirements**
- List the verification procedures and frequencies
- Must be signed and dated by responsible establishment official
- Must be developed by someone who has completed a course of instruction in the application of HACCP principles to meat and poultry processing

**SLIDE 10: SSOP Regulatory Requirements**
- Sanitation SOP implementation
- Maintenance or effectiveness
- Corrective Actions
- Recordkeeping

**SLIDE 11: Implementation**
Establishment responsibilities:
- conduct pre-operational procedures before beginning operation
- conduct during-operations procedures specified in its SSOPs
- monitor daily the implementation of procedures in its SSOPs

**SLIDE 12: Maintenance or Effectiveness**
Establishment responsibilities:
- routinely evaluate the effectiveness of the procedures in its SSOPs in preventing direct contamination or adulteration
- revise the procedures in its SSOPs when necessary to keep them effective and current with respect to changes in the establishment

**SLIDE 13: Corrective Actions**
Establishment must:
- ensure the appropriate disposition of products that may be contaminated
- restore sanitary conditions
- prevent recurrence

**SLIDE 14: E. coli Performance Criteria**
- Used by the plant to determine whether their sanitary dressing process is working.
- Plant responsible to take samples.
- All cattle, swine, chickens, and turkey slaughter establishments must perform sampling.

**SLIDE 15: E. coli Performance Criteria**
- The plant assess whether its bacterial counts are in keeping with the performance of other plants as determined by the national baseline studies.
- When testing shows that counts are out of line, the plant should review its sanitary dressing process and take corrective actions to lower counts.
SLIDE 16: *Salmonella* Performance Standards

- FSIS selected *Salmonella* as the target organism for four reasons.
  - *Salmonella* is the most common cause of food-borne illness.
  - FSIS baseline data show that it occurs often enough to be detected and monitored.
  - Current methodologies can recover *Salmonella*.
  - Intervention strategies aimed at *Salmonella* should be effective against other pathogens.

SLIDE 17: *Salmonella* Performance Standards

Based on nationwide prevalence of *Salmonella*

- A sample size was established with a maximum number of positive samples allowed to meet the performance standard.
- Ensure that plants are consistently achieving an acceptable level of performance with regard to controlling and reducing harmful bacteria on raw meat and poultry products.

SLIDE 18: *Salmonella* Performance Standards

- Measure of process effectiveness in limiting contamination with this pathogen.
- Set for slaughter and raw ground products.
- NOT used to determine product disposition.

SLIDE 19: *Salmonella* Performance Standards

- Provide an objective, measurable standard for the industry to calibrate their HACCP systems
- Provide a yardstick for FSIS to measure the effectiveness of industry HACCP controls in plants where they apply

SLIDE 20: *Salmonella* Performance Standards

Aggregate data on all sizes of plants:

- Broilers averaged a *Salmonella* prevalence of 10.2% under HACCP compared to 20% baseline
- Market hogs average 7% under HACCP compared to 8.7% baseline
- Cows and bulls average 2.1% under HACCP compared to 2.7% baseline

SLIDE 21: *Salmonella* Performance Standards

- Steers/heifers average 0.3% under HACCP compared to 1% baseline
- Ground beef averages 3.7% under HACCP compared to 7.5% baseline
- Ground chicken averages 14.4% under HACCP compared to 44.6% baseline
- Ground turkey averages 29.7% under HACCP compared to 49.9%

SLIDE 22: *Salmonella* Performance Standards

- CDC has reported a reduction in the incidence of foodborne illness
- FSIS believes the performance standards, working in concert with HACCP, are one of the factors contributing to this decline

SLIDE 23: *Salmonella* Performance Standards and *E. coli* Performance Criteria

- Complement one another
- While *E. coli* testing is a good indicator of fecal contamination, it is not directly correlated with *Salmonella* contamination, which is affected by other factors as well, including the condition of the incoming animals.
- The *Salmonella* standards will force plants not currently meeting the standards to take steps to reduce pathogens that can cause foodborne illness.