Recent History of Poultry Inspection...

- 1997 – HACCP-based Inspection Models Project Proposal (HIMP)
- FSIS authorities refer to numerous studies by NAS, GAO and USDA indicating the need for “fundamental change”
- Replace FSIS Carcass Inspectors with company Carcass Sorters
- Increased maximum allowed line speed
- 1998 – Inspectors’ union files suit
- Alleges that HIMP violates the PPIA
- 1999 – District Court rules in favor of FSIS
- 2000 – Appeals Court overturns

- 2000 – HIMP modified with addition of the Carcass Inspector
- 2001 – Research Triangle Institute study published
  - Indicated that the HIMP establishments were producing products equivalent, and in many cases, superior to the traditionally inspected establishments
- 2002 – National Alliance for Food Safety review published
  - Design and methodology of the RTI study was appropriate
  - Products produced under HIMP showed marked improvement in organoleptic defect scores
  - Contamination rates of carcasses in HIMP establishments were significantly lower

Purpose of NPIS*

- 2012 – Modernization of Poultry Slaughter Inspection Proposed Rule
- 2014 – MoPSI Final Rule
- 2014 – New Poultry Inspection System (NPSI)
  - Voluntary
  - Replace FSIS Carcass Inspectors with company Carcass Sorters
  - Focus on Sanitary Dressing Procedures and Prevention of Contamination
  - Monitor Process Control with Pre- and Post-Chill Whole Bird Carcass Rinses

- Improve food safety and the effectiveness of poultry slaughter inspection
- Remove unnecessary obstacles to innovation
- Make better use of FSIS resources
- Replaces all existing inspection systems (SIS, NELS, NTIS) except for traditional

*According to senior FSIS management staff.
Current Slaughter Inspection Systems

- SIS, NELS, NTIS and Traditional
  - Company-paid team members conduct no carcass sorting activities (after live hang)
  - FSIS Carcass Inspectors (CIs) assess disease and defects and direct company-paid inspectors’ helpers to take required action
  - Carcasses are “passed”, “passed conditionally”, or condemned
  - CIs are not tasked to check trim / processing defects
  - Trimming and defect removal is conducted by company-paid trimmers subject to the Finished Product Standards
  - Most inspection, sorting and trimming activities are quality related

Limitations of Current Inspection Systems*

- CIs spend more time conducting sorting activities for quality-related defects than verifying food safety-related controls and the adequacy of the HACCP system
- Approximately 85% of the annual FSIS budget is used to cover carcass inspector pay
- Limits the incentives and abilities of industry management to improve process controls
- Limits line speeds

Details of NPIS

- Company must ensure there are trough drains extending from carcass opening to the completion of all trimming activities($$)
- FSIS provides one CI and one VI per evisceration line
- Company must provide an annual attestation to FSIS circuit safety committee re: program to monitor and document work-related injuries
- ANY line configuration can run up to 140 bpm provided that process control can be maintained (possibly +$)
- CI and IIC have authority to slow or stop the line for any indication of a loss of process control (COP)

Traditional Poultry Slaughter Inspection (NELS)

Details of NPIS

- Company-paid TMs conduct initial carcass sorting, trimming, reprocessing and disposition prior to presentation to the carcass inspector (CI) at the pre-chill location (HIMP)($$$)*
- Written HACCP control element to prevent Sep/Tox carcasses from entering the chill system
- 300-bird inspection for avian leukosis at the start of each flock
- Must provide a point online with minimum 200 foot-candles shadow free lighting for carcass inspection ($)
- Provide one CI station meeting designated specifications per line ($)
- Provide Verification Inspection (VI) stations meeting designated specifications ($)

New Poultry Slaughter Inspection (NPIS)
Details of NPIS

- The VI inspector will conduct tasks that are more closely related to food safety, such as:
  - Verifying compliance to HACCP and SSOP requirements
  - Performing verification checks for Sep/Tox carcasses and visible contamination
  - Collecting samples for microbiological or chemical residue analyses
  - Verifying Sanitary Dressing Procedure Requirements
    - A new requirement to have written programs
    - “Loss of Process Control” is open to subjective determination!

Modification of Other Regulations

- The Rule Modifies Existing Regulations
  - Eliminates generic E. coli test requirements
  - Permits flexibility in carcass chilling
    - Replaces specific time / temp requirements with a performance standard
  - Expressly allows on-line reprocessing
  - Permits alternative antimicrobials for off-line reprocessing
  - Revokes the 1999 Salmonella spp. Performance Standards

Expected Benefits*

- Increased productivity at establishments -- $258.9 million annually (6% increase in throughput for a savings of approximately 3 cents per bird)
- Reduction in illness costs -- $79.19 million annually (based on the Salmonella / Campylobacter spp. risk assessment)

*According to senior FSIS management staff.

Details of NPIS

- New requirements for HACCP elements
  - Prevention of carcass contamination with visible fecal material and enteric pathogens
  - Requirement to test carcasses pre- and post-chill microbiologically to demonstrate process control for prevention of contamination
  - One pre- and one post-chill carcass tested per 22,000 head slaughtered
  - Salmonella spp. and Campylobacter spp. or appropriate indicator microorganism

Modification of Other Regulations

- Elimination of the Finished Product Standards
  - Carcasses must meet the definition of “Ready to Cook Poultry” – “suitable for cooking without further processing”
  - “Carcasses with trim or dressing defects or removable animal disease conditions are not suitable for cooking without further processing”
  - 140 BPM – Broilers; 55 BPM -- Turkeys

Expected Benefits*

- Budgetary savings to FSIS -- $12.9 million / $40 million (first year vs. subsequent years) due to the reduction in on-line inspector positions
- Industry cost increases -- $20.3 million (hiring and training sorters; and costs to meet the new facility requirements)

*According to senior FSIS management staff.
Poultry Parts Performance Standard

- Parts Sampling by FSIS began March 2015
- FSIS Sampling will be Continuous (1 sample / week up to 6 samples / month)
- Categories to be posted On-Line in July 2015*
  - May use historical FSIS data to determine the initial Category status for the establishment
- Performance Standards and the 52 / 51 sample moving window:

<table>
<thead>
<tr>
<th>Product</th>
<th>Salmonella spp.%</th>
<th>Campylobacter spp.%</th>
<th>Minimum # of Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broiler Carcass</td>
<td>9.80%</td>
<td>15.70%</td>
<td>10</td>
</tr>
<tr>
<td>Comminuted Chicken*</td>
<td>25.00%</td>
<td>1.90%</td>
<td>10</td>
</tr>
<tr>
<td>Chicken Parts</td>
<td>15.40%</td>
<td>7.70%</td>
<td>10</td>
</tr>
</tbody>
</table>

*does not include MSC

Poultry Parts Performance Standard

- From a Fixed Sample Window to Moving 51 Sample Window
  - FSIS sampling will be continuous
  - 51 week moving window to determine compliance
  - Even if the sample set hasn’t reached 51 samples, FSIS staff will use the “minimum number of samples” to determine compliance to the standard

Impacts*

- Increased productivity at establishments -- $258.9 million annually (6% increase in throughput for a savings of approximately 3 cents per bird)
- Reduction in illness costs -- $79.19 million annually (based on the Salmonella / Campylobacter spp. risk assessment)

*According to senior FSIS management staff.

Impacts

- Budgetary savings to FSIS -- $12.9 million / $40 million (first year vs. subsequent years) due to the reduction in on-line inspector positions
- Industry cost increases -- $20.3 million (hiring and training sorters; and costs to meet the new facility requirements)

Cost estimates are wildly inaccurate!

- Tyson Foods capital estimates multiple times FSIS’ total industry cost estimate
- This doesn’t include ongoing labor costs
- Benefit estimates are unknown / unknowable!
  - 1996 HACCP estimate of public health-benefit was $7.13 to $26.59 billion
  - Reduction of contamination with 4 enteric pathogens

*According to FSIS Management.
“For example, if the HACCP-based program can reduce the four pathogens by 50 percent and that reduction leads to a proportionate reduction in foodborne illness, the projected benefits range from $3.6 to $13.3 billion, which is half the potential benefit estimate of $7.13 to $26.59 billion.”

---

* MPN’s on roughly 1/3 of the positive samples.
Impacts
Probability of a positive result depending on individual percent positive and number of parts in a sample

<table>
<thead>
<tr>
<th>Number of parts to make a 4 pound</th>
<th>0.50%</th>
<th>1.00%</th>
<th>2.00%</th>
<th>5.00%</th>
<th>10.00%</th>
<th>15.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.50%</td>
<td>1.00%</td>
<td>2.00%</td>
<td>5.00%</td>
<td>10.00%</td>
<td>15.00%</td>
</tr>
<tr>
<td>2</td>
<td>1.00%</td>
<td>1.99%</td>
<td>3.98%</td>
<td>9.78%</td>
<td>19.00%</td>
<td>27.32%</td>
</tr>
<tr>
<td>4</td>
<td>1.99%</td>
<td>3.98%</td>
<td>7.96%</td>
<td>15.92%</td>
<td>31.84%</td>
<td>47.80%</td>
</tr>
<tr>
<td>8</td>
<td>3.98%</td>
<td>7.96%</td>
<td>15.92%</td>
<td>31.84%</td>
<td>63.68%</td>
<td>92.79%</td>
</tr>
<tr>
<td>10</td>
<td>4.97%</td>
<td>9.94%</td>
<td>19.88%</td>
<td>39.75%</td>
<td>79.50%</td>
<td>98.16%</td>
</tr>
<tr>
<td>15</td>
<td>7.44%</td>
<td>14.88%</td>
<td>29.76%</td>
<td>59.52%</td>
<td>79.41%</td>
<td>91.86%</td>
</tr>
<tr>
<td>20</td>
<td>9.54%</td>
<td>19.08%</td>
<td>38.16%</td>
<td>76.32%</td>
<td>92.05%</td>
<td>96.92%</td>
</tr>
<tr>
<td>50</td>
<td>13.88%</td>
<td>27.77%</td>
<td>55.54%</td>
<td>83.32%</td>
<td>99.92%</td>
<td>99.92%</td>
</tr>
<tr>
<td>100</td>
<td>18.17%</td>
<td>36.34%</td>
<td>72.68%</td>
<td>90.32%</td>
<td>99.92%</td>
<td>99.92%</td>
</tr>
</tbody>
</table>

Cycle Of Pain (COP)


Conclusion

- FSIS management are seriously committed to reducing the burden of human salmonellosis
- The Poultry Industry is seriously committed to reducing the burden of human salmonellosis
- There are substantial differences between E. coli O157:H7 and the species of Salmonella
REFERENCES:

