Food Safety:
Challenges and Opportunities in the Meat Industry - U.S. Perspective

Barb Masters, DVM
Senior Policy Advisor
July 2016
Challenges and Opportunities

• Impacts of US Politics
• Importing into the US
• US Industry
• Future challenges for all
Impacts of US Politics

Current Hot Topic in Congress

• Preventing Antibiotic Resistance Act of 2015
• Preservation of Antibiotics for Medical Treatment Act of 2015
  ➢ Introduced in Congress
• Executive Order -- Combating Antibiotic-Resistant Bacteria
  ➢ Issued by President Obama
  ▪ Efforts carried out as part of the Action Plan will help the Federal government curb the rise of antibiotic-resistant bacteria with the goal of saving lives.
Impacts of Politics

• “Meat is Horrible” — Washington Post, July 3, 2016
  ➢ “It may be delicious, but the evidence is accumulating that meat, particularly red meat, is just a disaster for the environment — and not so great for human beings, either.”
  ➢ “The idea of a meat tax has developed over the past 25 years as a “completely obvious” measure to economists and environmentalists...”
Impact of Politics

July 13, 2016 --- “Obama administration finalizes rule to ban slaughter of downer calves”

• In 2009 FSIS finalized a rule to prohibit the slaughter of non-ambulatory or "downer" cattle but allowed an exception for disabled veal calves that can be brought to a standing position later.

• The Final Rule removes the exception and was in response to a petition received from the Humane Society of the United States.
Consumer Advocates Push the Agenda in Congress

Coalition Opposes Presidential ‘Fast Track’ to Trade Deal
Critics say TPP could lower food safety standards

Rep. DeLauro on Trade Deal: ‘Our Food System Is Broken’ and ‘TPP Will Make Matters Worse’
Not Just Advocates that Are Outspoken

US Presidential Candidates

- Trump - Believes the Trans-Pacific Partnership as “bad, bad deal for American businesses, for workers, for taxpayers”; would withdraw from the TPP

- Clinton - Opposes the Trans-Pacific Partnership; “she opposes it today, will oppose it in November and will not move it forward in January”
Speaking of the Election

- We do not expect many initiatives for the next few months
  - Day to day work will continue
- Immediately post election there could be some movement on food safety issues that the Obama administration had been hopeful to see move during his Administration (unknown!)
- Once new President takes office – at least six to nine months for new personnel to be named and new initiatives to begin....
Speaking of the Election

• Historically, the period while the U.S. is selecting candidates and voting for president there is very few new regulations

• The period after the election – if the President has served full 8 years – then often several regulations passed “midnight regulations”

➤ midnight regulation is generally known as any rule published after Election Day, but before the next president takes office
Midnight Regulations

Change of President
Obama Administration and Food Safety

- Specific food safety initiatives accomplished by this Administration:
  - Prohibiting STECs
  - Labeling mechanically tenderized meats
  - Pathogen reduction standards for poultry parts
  - Modernizing poultry inspection
  - Testing and holding policy
Importing into the US

- Long standing perspective that FSIS system for equivalency has been very effective
  - Some advocates have expressed concern with the “risk based approach” FSIS moving towards
- High confidence in the regulatory system and the safety of the food supply from products coming from NZ
  - There is careful “watch” by advocates when “different” inspection approaches taken
Review of FSIS Equivalence Process

- Country Request letter
- Document Submission
- Document Review
- On-site Verification
- **Public Notification – Proposed Rule**
- **Final Determination of Equivalence – Final Rule**
- Country Certification of Establishments
- Establishments begin exporting to the United States
  - Recent proposal to provide for **electronic** certificates
    - 18 pages of comments such as “THE INSPECTION PROCESS IS FAILING TO PROPERLY PROTECT AMERICAN CITIZENS IN THIS COUNTRY. THE HEALTH AND SAFETY OF USA CITIZENS IS BEING UNDERMINED BY POISON PRODUCTS FROM FOREIGN LANDS.”
Electronic Certification

WHY SO LONG TO IMPLEMENT?
• Each country had their own requirements
  ▪ Over 100 versions of certificates to program the IT system for
  ▪ Multiple sizes, multiple colors, etc.
➢ Rule has issued-progress being made!
➢ FSIS will conduct a phased-in approach
  ▪ Likely with X number that use standard certificates and Y number that use non-standard certificates
Six Equivalence Components

The “equivalence components” for FSIS are:

• government oversight,
• statutory authority and food safety regulations,
• sanitation,
• hazard analysis and critical control points (HACCP),
• chemical residues, and
• microbiological testing programs.
On-site Audits Now Risk-Based

- The countries selected are based on analysis of country performance including:
  - Process control based on failures at import re-inspection and risk footprint based on “product weighted volume by relative risks posed by the process category, product category, and species, taking into account the processing season associated with products exported to the U.S.
  - 5 “Pont of Entry” violations since March 2015
    - 4 fecal/ingesta in lamb/goats
On-site Audits Now Risk-Based

- Previous on-site audit findings – countries with systemic findings are weighted more heavily than countries with isolated findings.

- Responses to “optional” questions on the Self-Reporting Tool.
  - The optional questions include information on level of advancement (LOA) such as the use of risk analysis, availability of contingency plans to mitigate food safety emergencies, and effectiveness of foodborne disease surveillance.
Impacts of FSIS Verification

• FSIS posts sample results for public review
• FSIS posts results of on-site audits
  ➢ Worst possible scenario is outbreak associated with products (domestic or imported product)
Impact of Foodborne Illness

Blue Bell faces hit worse than financial: A loss of trust

- Blue Bell Creameries recalled all of its products after its ice cream was linked to 10 listeria cases in four states, including three deaths.
  - Blue Bell would lay off 1,450 of its 3,900 employees and furlough 1,400 more.
- Even this wasn’t enough... now faces a permanently damaging loss of trust.
Impact of Foodborne Illness

• “Largest Canadian meat recall: $4-million settlement in XL Foods tainted meat lawsuit”
• “XL Foods E. coli Recall Includes 890,000 Pounds of Beef Shipped to U.S.”
• “The United States quickly closed its border last September to beef from the plant, which slaughtered up to 40 per cent of Canada's cattle. Canadian officials then shut the plant down and sent 2,200 workers home.”
What US Beef Industry Does Well

- The US beef industry considers food safety a “non-competitive” issue
- On-going sharing of lessons learned
- Continuous use of data to drive improvement
At the packer level...

- Trim testing to continually assess and improve process control (diversion of positives)
  - N60 Trim testing has provided a continuous, stable measure of the progress
  - Intervention on subprimals for non-intact use
- Ground testing for verification of process and further feedback to the system (diversion of positives)
### FSIS Results from Analysis of Raw Ground Beef/Veal Component Samples for STECs

#### Raw Ground Beef Components (RGBC)

<table>
<thead>
<tr>
<th>Source</th>
<th>Serotype</th>
<th>Trim Verification</th>
<th>Follow-up to RGB Positive at Supplier</th>
<th>Follow-up to RGBC Positive</th>
<th>Non-routine Follow-up/Traceback</th>
<th>Verification/Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beef</strong></td>
<td>O157:H7</td>
<td><strong>0.18%</strong> (3/1,710)</td>
<td>0.00% (0/4)</td>
<td>0.00% (0/338)</td>
<td>0.00% (0/0)</td>
<td>0.00% (0/247)</td>
</tr>
<tr>
<td>Total non-O157 STECs</td>
<td><strong>0.85%</strong> (14/1,653)</td>
<td>0.00% (0/4)</td>
<td>0.62% (2/324)</td>
<td>0.00% (0/0)</td>
<td>0.49% (1/206)</td>
<td></td>
</tr>
<tr>
<td>O26</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>O45</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>O103</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>O111</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>O121</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>O145</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Veal</strong></td>
<td>O157:H7</td>
<td><strong>0.00%</strong> (0/41)</td>
<td>0.00% (0/0)</td>
<td>0.00% (0/34)</td>
<td>0.00% (0/0)</td>
<td>0.00% (0/12)</td>
</tr>
<tr>
<td>Total non-O157 STECs</td>
<td><strong>5.13%</strong> (2/39)</td>
<td>0.00% (0/0)</td>
<td>0.00% (0/33)</td>
<td>0.00% (0/0)</td>
<td>0.00% (0/10)</td>
<td></td>
</tr>
<tr>
<td>O26</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>O45</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>O103</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>O111</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>O121</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>O145</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**As of June 12, 2016**

**O157:H7**

**Total non-O157 STECs**

**O103**

**O111**

**O121**

**O145**
FSIS Beef vs. Veal Comparison for all Pathogens at Post-hide removal and Pre-chill (July 2015)

<table>
<thead>
<tr>
<th></th>
<th>Salmonella Percent Positive</th>
<th>E. coli O157:H7 Percent Positive</th>
<th>Non-O157 STEC Percent Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post-hide</td>
<td>Pre-chill</td>
<td>Post-hide</td>
</tr>
<tr>
<td>BEEF</td>
<td>28.8% (134/465)</td>
<td><strong>4.3%</strong> (20/464)</td>
<td>1.72% (8/464)</td>
</tr>
<tr>
<td>VEAL</td>
<td>9.3% (9/96)</td>
<td>2.0% (2/97)</td>
<td>1.04% (1/96)</td>
</tr>
</tbody>
</table>
Where US Beef Industry Continues to Strive for Improvement

• **High Event Periods** - time period during which commercial meat plants experience a higher than usual rate of *Escherichia coli* O157:H7 contamination.

> What causes them?

- Much on-going research... difficult to predict when – find 2-3 days after slaughter
- Some have suggested biofilms and sanitizer resistance

US Beef Industry On-Going Challenges

• Consumer demands
  ➢ Veterinary Feed Directive (VFD) – prescriptions of feed grade antibiotics
  ➢ Antibiotic resistance concerns
  ➢ Animal welfare (and animal raising conditions)
Veal – Focus on Sanitary Dressing

- FSIS data demonstrated that veal trimmings appear to be higher for STEC (especially non-O157) than that other cattle slaughter classes.
- FSIS did on-site assessments
  1) Inadequate sanitary dressing;
  2) Ineffective antimicrobial intervention; and
  3) Failure to use microbial data in decision making.
Inadequate Sanitary Dressing

- Cutting through the weasand (esophagus) during sticking, causing ingesta to leak onto the carcass and head;
- Cutting through the hide and not sanitizing knives, gloves, or other equipment before further dressing the carcass, causing cross-contamination;
- Allowing the exterior side of hide flaps to contact exposed carcass;
- Failing to properly bag and tie the bung;
- Allowing the bagged bung to contact the hide, which results in trailing contamination as the bung is pulled through the pelvic inlet;
- Puncturing the paunch and intestines during evisceration and allowing ingesta to leak onto the carcass; and
- Eviscerating the carcass before to hide removal (e.g., hide-on processing).
Current Intervention Strategies

• 2016 Publication
  - Lactic Acid (4.5%, pH 2.0)
  - Citrilow (pH 1.2)
  - Beefxide (2.25%, pH 2.3%)

The study demonstrated that warm water washing followed by a prechill spray with low-pH chemical can effectively reduce STEC.

*Journal of Food Protection* - Number 6, June 2016, pp. 896-1055, pp. 956-962(7)
Looking Forward
Intervention Strategies

- More research focus on pre-harvest
- Clean label interest by consumers will demand more use of “hot water” and steam
  - Key will be dressing procedures and documented controls
Modernization of Inspection

• FSIS has finalized regulations for the modernization of poultry inspection
  ➢ There was significant opposition to the efforts by advocates and FSIS inspection union
  ➢ Those opposed cited worker safety issues to gain support of organizations traditionally not involved in food safety

• FSIS has indicated a likelihood of issuing regulations to modernize pork inspection
  ▪ same advocates already generating similar concerns

• Very unlikely to see beef modernization in near future
How Can US and NZ Processors Partner Better Together

• Communication on the Equivalency for STEC in NZ
  ➢ US processors import large lots from NZ
  ➢ Often must subdivide (conduct testing to divide the lot)
    ▪ This can be recognized by FSIS if robust testing conducted
  ➢ In supplier agreements –
    ▪ No “high event periods” shipped (no more positives than expected)
Conclusions

• Current perceptions of NZ products into US are excellent
• Communications important
• US political environment likely will preclude any movement on
  ➢ Modernization of beef inspection
  ➢ Further movement on risk-based approach to imports
Questions