



United States Department of Agriculture

One Team, One Purpose



# Food Safety and Inspection Service

Protecting Public Health and Preventing Foodborne Illness



# Food Safety and Inspection Service

## Modernization of Meat Inspection in Swine – Status for USA

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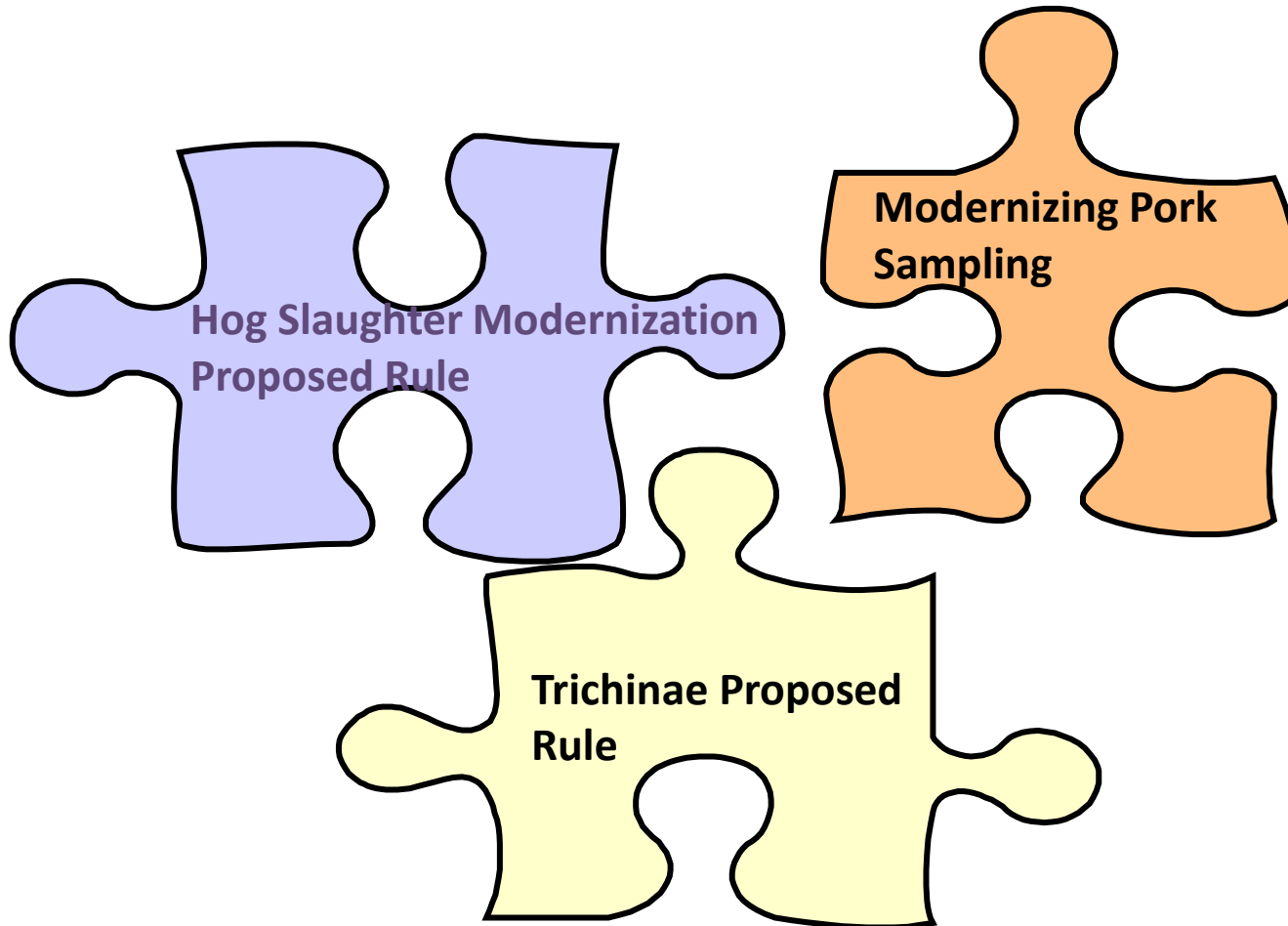
Office of Policy and Program Development

Food Safety and Inspection Service

United States Department of Agriculture



# Food Safety and Inspection Service: Overview of Hog Slaughter Modernization Initiatives



# Food Safety and Inspection Service: Livestock Slaughter 2016 Summary – USDA National Agricultural Statistics Service

- Total red meat production for the United States totaled 50.5 billion pounds (22.9 B kg) in 2016, 4 percent higher than the previous year. Red meat includes beef, veal, pork, and lamb and mutton. Red meat production in commercial plants totaled 50.4 billion pounds (22.86 B kg). On-farm slaughter totaled 93.2 million pounds (42.3 M kg).
- Commercial hog slaughter totaled 118.2 million head, 2 percent higher than 2015 with 99.3 percent of the hogs slaughtered under federal inspection. The average live weight was down 1 pound from last year, at 282 pounds (127.9 kg). Barrows and gilts comprised 97.3 percent of the total federally inspected hog slaughter.
- Hogs were slaughtered at 621 establishments, with the 13 largest establishments accounting for 60 percent of the total.
- <https://www.nass.usda.gov>

# Food Safety and Inspection Service: Hog Slaughter Modernization Proposed Rule

- The proposed rule is currently at the Office of Management and Budget, or OMB, for review.
- FSIS is proposing a New Swine Slaughter Inspection System (NSIS), which establishments could choose to operate under on a voluntary basis.
- NSIS would be a new, optional inspection system for market hog slaughter.
- The proposed rule also has requirements for all swine slaughter establishments related to microbiological testing and contamination prevention.

# Food Safety and Inspection Service: Hog Slaughter Modernization Proposed Rule

- FSIS has conducted a pilot study, the HACCP-Based Inspection Model Project (HIMP), of five market hog establishments from 1997 to present.
- Our data indicates that HIMP provides equivalent or greater public health protection than the existing inspection system.
- FSIS has posted the Evaluation of HACCP Inspection Models Project (HIMP) for Market Hogs on its webpage at:

<https://www.fsis.usda.gov/wps/wcm/connect/f7be3e74-552f-4239-ac4c-59a024fd0ec2/Evaluation-HIMP-Market-Hogs.pdf?MOD=AJPERES>

# Food Safety and Inspection Service: Hog Slaughter Modernization Proposed Rule

- FSIS conducted a *Salmonella* baseline study on hog slaughter establishments during the thirteen month period August 2010 to August 2011.
- There were 253 establishments eligible for sampling that contributed approximately 99.9% of hogs slaughtered in the U.S. From the 253 eligible establishments, 152 were randomly assigned a sample.
- The *Salmonella* post-chill positive rates were:
  - the 5 HIMP market hog establishments –0.69%
  - the 21 non-HIMP market hog comparison establishments - 1.35%
  - All 147 non-HIMP hog slaughter establishments in baseline study – 3.05%

# Food Safety and Inspection Service: Hog Slaughter Modernization Proposed Rule

- Some key elements FSIS is considering proposing for establishments opting into NSIS include:
  - Requiring establishment personnel to sort and remove unfit animals before FSIS performs ante-mortem inspection; and
  - Shifting Agency resources to conduct more offline inspection activities, which are more effective than sensory examination of carcasses in ensuring food safety.



# Food Safety and Inspection Service: Hog Slaughter Modernization Proposed Rule

- All establishments would also have to sample at a minimum prescribed frequency that is adequate to monitor their ability to maintain process control for indicator organisms.
- Market hog slaughter establishments that do not choose to operate under NSIS may continue to operate under their existing inspection system, providing flexibility to industry while maintaining process control.

# Food Safety and Inspection Service: Visual Only Lymph Node Inspection

- FSIS requires incising of mandibular lymph nodes in hog slaughter establishments operating in the United States.
- FSIS has reviewed Denmark's and the Netherlands' visual only post-mortem slaughter inspection systems for market hogs and found them to be equivalent to the United States' market hog slaughter inspection system.
  - Visual only post-mortem inspection systems allow inspectors to assess entire carcasses visually with no palpation of lymph nodes or organs.
  - On-farm controls play a significant role in these systems.
  - These systems reduce cross contamination of carcasses with *Salmonella* spp.
  - Visual only inspection systems will still allow veterinary inspectors to palpate and incise lymph nodes and organs (as occurs in traditional inspection) at their discretion.

# Food Safety and Inspection Service: Modernizing Pork sampling

- FSIS announced the launch of the Raw Pork Products Exploratory Sampling Program (RPPESP) in April 2015. The goal of the project is to collect data on the presence of *Salmonella*, other pathogens, and indicator organisms in various pork products. The project includes:
  - retail sampling (completed in FY 2014),
  - Phase I exploratory sampling at slaughter and processing establishments (May 2015 to November 2015),
  - samples taken during the transition phase (January 2016 to May 2017), and
  - Phase II exploratory sampling (beginning June 1, 2017).

## Food Safety and Inspection Service:

### Phase I Exploratory Sampling – Product Groups Sampled

- Raw pork products collected from federal establishments producing 1,000 lbs or more a day of:
  - **Comminuted** (ground pork, sausage, AMR, etc.)
  - **Intact cuts** (tray ready cuts from primals, etc. that have not been needle/blade tenderized, injected, etc.)
  - **Intact other** (feet, neck bones, cutlets, etc. that have not been needle/blade tenderized, injected, etc.)
  - **Non-intact cuts** (cuts from primals, etc. that have been needle/blade tenderized, injected, etc.)
  - **Non-intact other** (feet, neck bones, cutlets, etc. that have been needle/blade tenderized, injected, etc.)

# Food Safety and Inspection Service:

## Phase I Exploratory Sampling – *Salmonella* Results

Pork Project Code	Pork Product Type	Phase I <i>Salmonella</i> % Positive by Project Code (May 2015 – Nov 2015)
EXP_PK_COM01	Comminuted	21.0% (136/649)
EXP_PK_ICT01	Intact Cuts	11.9% (38/320)
EXP_PK_IOT01	Intact Other	18.7% (17/91)
EXP_PK_NCT01	Non-Intact Cuts	5.0% (3/60)
EXP_PK_NOT01	Non-Intact Other	7.5% (6/80)
Total		16.7% (200/1,200)

The data represents samples collected from May through November 2015 and was pulled from the FSIS LIMS database on March 16, 2016.

# Food Safety and Inspection Service:

## Phase I Exploratory Sampling - Additional Analytes

Pork Project Code	Product Type	Total Samples	<i>Campylobacter</i>		Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)	
			Positives	% Positive	Positives	% Positive
EXP_PK_COM01	Comminuted	112	1	0.9%	6	5.4%
EXP_PK_ICT01	Intact Cuts	53	1	1.9%	3	5.7%
EXP_PK_IOT01	Intact Other	28	0	0.0%	0	0.0%
EXP_PK_NCT01	Non-Intact Cuts	1	0	0.0%	0	0.0%
EXP_PK_NOT01	Non-Intact Other	6	0	0.0%	0	0.0%
<b>Total</b>		<b>200</b>	<b>2</b>	<b>1.0%</b>	<b>9</b>	<b>4.5%</b>

This data represents samples collected from May through November 2015 and was pulled from the FSIS LIMS database on March 16, 2016.

# Food Safety and Inspection Service:

## Phase I Exploratory Sampling - Additional Analytes - Continued

Pork Project Code	Product Type	Total Samples	<i>Toxoplasma gondii</i>		Yersinia enterocolitica	
			Positives	% Positive	Positives	% Positive
EXP_PK_COM01	Comminuted	112	2	1.8%	1	0.9%
EXP_PK_ICT01	Intact Cuts	53	0	0.0%	2	3.8%
EXP_PK_IOT01	Intact Other	28	0	0.0%	0	0.0%
EXP_PK_NCT01	Non-Intact Cuts	1	0	0.0%	0	0.0%
EXP_PK_NOT01	Non-Intact Other	6	0	0.0%	0	0.0%
<b>Total</b>		<b>200</b>	<b>2</b>	<b>1.0%</b>	<b>3</b>	<b>1.5%</b>

This data represents samples collected from May through November 2015 and was pulled from the FSIS LIMS database on March 16, 2016.

# Food Safety and Inspection Service:

## Phase I Exploratory Sampling - Additional Analytes - STECs

Pork Project Code	Product Type	Total Samples	<i>E. coli</i> O157:H7		Non-O157 STECS	
			Positives	% Positive	Positives	% Positive
EXP_PK_COM01	Comminuted	112	0	0.0%	6	5.4%
EXP_PK_ICT01	Intact Cuts	53	0	0.0%	4	7.6%
EXP_PK_IOT01	Intact Other	28	0	0.0%	0	0.0%
EXP_PK_NCT01	Non-Intact Cuts	1	0	0.0%	0	0.0%
EXP_PK_NOT01	Non-Intact Other	6	0	0.0%	0	0.0%
<b>Total</b>		<b>200</b>	<b>0</b>	<b>0.0%</b>	<b>10</b>	<b>5.0%</b>

This data represents samples collected from May through November 2015 and was pulled from the FSIS LIMS database on March 16, 2016.



# Food Safety and Inspection Service:

## Phase II Exploratory Sampling

	Phase II Exploratory Sampling	
<b>Timeframe</b>	Began June 2017	
<b>Number of Samples</b>	~4,200 samples ( <i>Salmonella</i> and indicators) ~1,920 samples (also analyzed for STECs)	
<b>Eligible Plants</b>	Non-slaughter plants that produce a minimum of 101 to 1,000 lbs. at least 21 days per month	Plants that slaughter and produce a minimum of 101 to 1,000 lbs. at least 21 days per month
<b>Analytes Tested</b>	<i>Salmonella</i> and indicator organisms: aerobic count and generic <i>E. coli</i>	<i>Salmonella</i> , STECs, and indicator organisms: aerobic count and generic <i>E. coli</i>
<b>Pork Product Types Collected</b>	Intact pork cuts, non-intact pork cuts, and comminuted pork	

Additional details and results can be found here: <https://www.fsis.usda.gov/wps/portal/fsis/topics/data-collection-and-reports/microbiology/special-sampling-projects/raw-pork-sampling>

# Food Safety and Inspection Service: Trichinae Supplemental Proposed Rule

- On March 28, 2016, FSIS proposed to amend the Federal meat inspection regulations to eliminate the prescriptive requirements in 9 CFR 318.10 for pork products to be treated to destroy trichinae (*Trichinella spiralis*) and permit establishments to control trichinae through their HACCP system.
- If this supplemental proposed rule is finalized, establishments will have the flexibility provided by the HACCP regulations (9 CFR part 417) to develop appropriate science-based controls for trichinae and other parasitic hazards in pork, in addition to those currently in this regulation.
- All establishments producing pork products will have to determine whether trichinae is a hazard reasonably likely to occur in their processes. If it is, they must address this hazard in their HACCP plans or in a prerequisite program. FSIS has developed guidance describing interventions and will allow existing regulatory options as safe harbors.

# Food Safety and Inspection Service: Trichinella Draft Compliance Guidance to Accompany the Proposed Rule

- FSIS has developed a draft compliance guide for establishments to follow should this supplemental proposed rule become final.
- FSIS has posted the FSIS Compliance Guideline for the Prevention and Control of Trichinella and Other Parasitic Hazards in Pork and Products Containing Pork on its Web page at:

<https://www.fsis.usda.gov/wps/wcm/connect/fsis-content/internet/main/topics/regulatory-compliance/compliance-guides-index/compliance-guides-index>

- The treatments presently listed in 9 CFR 318.10 are included in the compliance guide. FSIS considers these treatments to be “safe harbors” that have been scientifically validated.

# Food Safety and Inspection Service: Trichinella Draft Compliance Guide

## Options for Preventing and Controlling Trichinella in Pork:

- Acquire pork products from carcasses or parts found to be free of Trichinella by a validated testing method.
- Obtain pork products from swine producers who participate in the Trichinae Certification Program or another pork safety program approved by the Animal and Plant Health Inspection Service (APHIS).
- Label NRTE pork products with validated cooking instructions.
- Treat pork products for the destruction of Trichinella through heating, freezing, curing, high pressure processing, or irradiation.

# Food Safety and Inspection Service

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