

National Residue Program

Food Safety & Inspection Service



United States Department of Agriculture
Food Safety and Inspection Service
Protecting public health through food safety and defense

Presentation Outline

- FSIS Activities
- FSIS Policies
- Overview of National Residue Program (NRP)
- FSIS Laboratory Procedures
- NRP Sampling Results
- FSIS Enforcement

FSIS Activities

- Our mission is to ensure that meat, poultry, and processed egg products distributed in commerce for use as human food are safe, wholesome, and accurately labeled.
- Inspection is the hallmark of what we do.

FSIS Activities

- Set food safety and other (wholesomeness and labeling) standards
- Domestic and import inspection
- Emergency response and epidemiological investigations
- Enforcement
- Food safety communication and education
- Food Security

FSIS Activities

- \$1B FSIS Agency Budget
- \$765M OFO (Field Operations) budget allocation
- 9,600 FSIS employees
- Nearly 8,000 OFO employees
- 7,730 front line employees, including
 - 6,600 inspectors
 - 800 veterinarians

FSIS Activities

- 6,200 Federal plants (800 livestock slaughter)
- Inspect 150 million livestock and 9 billion birds each year
- Egg products - 3.4 billion pounds
- Agency also inspects allied industries – custom exempt, warehouses
- Import Houses

Production classes for which FSIS has regulatory authority include:

- **Cattle:** bulls, beef cows, dairy cows, heifers, steers, bob veal calves, formula-fed veal calves, non formula-fed calves, heavy calves
- **Swine:** market hogs, roaster pigs, boars, sows,
- Sheep, lambs
- Goats
- Rabbits
- **Poultry:** young chickens, mature chickens, young turkeys, mature turkeys, ducks, geese
- Egg products



Current FSIS Policies

Overview of Current Residue Policy Issuances - Directives

- Procedures for Residue Sampling, Testing, and Other Responsibilities for the National Residue Program
 - Instructs inspection program personnel on how to perform residue sampling, testing, and verification procedures in accordance with the National Residue Program (NRP)
- Using FAST To Detect Antimicrobial Drug Residues in Cattle and Swine
 - Provides instruction to Public Health Veterinarians (PHVs) on ante-mortem and post mortem conditions in livestock presented for slaughter that warrant the use of FAST

Overview of Current Residue Policy Issuances - Notices

- Level of In-plant Targeted Testing for Chemical Residues
- IPP Responsibilities when a Chemical Residue does not have an established tolerance
- Same Source Supplier

Notice: Level of In-plant Targeted Testing for Chemical Residues

- To instruct inspection program personnel (IPP) on level of targeted testing for chemical residues so as to provide an incentive for establishments to support their hazard analysis in ways that demonstrate that they have effective residue control programs when slaughtering cull dairy cows and bob veal calves.

Notice: Inspection Responsibilities when a Chemical Residue does not have an established tolerance

- Provides instruction to inspection program personnel (IPP) that they are to condemn an entire carcass if a sample collected and analyzed under the National Residue Program is positive and there is no FDA or EPA established tolerance for the identified residue in muscle. IPP are to condemn the carcass as well as the parts.

Notice: How To Proceed in Establishments that have Multiple FSIS Laboratory Confirmed Residue Violations From the Same Source Supplier.*

- Provides instruction to PHVs on actions to be taken when they are informed by the District Office or otherwise determine that an establishment has more than one FSIS laboratory-confirmed residue violation from the same source.



National Residue Program

Interagency Program

- **Food and Drug Administration (FDA)**
 - Establishes Tolerances
 - Approves feed and drug usage
 - Regulatory Action: on-farm
- **Environmental Protection Agency (EPA)**
 - Establishes Tolerances
- **Food Safety and Inspection Service (FSIS)**
 - Prevents Chemically Adulterated Product from entering Food Supply
 - Regulatory action: establishment



National Residue Program

- Ensure meat, poultry, and egg products are safe from chemical residue violations
- Systematically sample and analyze imported and domestic products
- Verify that plants are fulfilling their responsibilities under HACCP



Residue Sampling Plans

Domestic Sampling Plan

- Scheduled Sampling
 - Exposure Assessments
 - Exploratory Assessments

Note: Random Sampling



- Inspector Generated Sampling
 - Individual Suspect Animal
 - Suspect Population or Slaughter Class- directed by regulation, directive or notice

Note: Target Sampling

Compounds in 2010 NRP

- Antibiotics (bioassay)
- Arsenic
- Avermectins
- Beta Agonists
- Carbadox
- Chloramphenicol
- CHC/COP
- Florfenicol
- Flunixin
- Lead and Cadmium
- Nitrofurans
- Nitroimidazoles
- Sulfonamides
- Thyreostats
- Trenbolone
- Zeranol



Blue Book/Red Book - NRP

- http://www.fsis.usda.gov/PDF/2009_Blue_Book.pdf
- http://www.fsis.usda.gov/PDF/2008_Red_Book.pdf



Testing Procedures

Testing Process

- Order:



- Screen – rules out the need for further testing on most samples
- Quantify – determines the amount of chemical residue present in the sample
- Confirm – verifies the identity of the chemical residue present in the sample

Fast Antimicrobial Screen Test (FAST)

- Antibiotic detection test for fresh or thawed kidney tissue
- FAST is a biological screening test for the detection of antimicrobial residues in animal tissues. It is designed to be performed by a veterinarian or a designated food inspector in a slaughtering plant. FAST is an adaptation of the antimicrobial screening test that has been used in FSIS laboratories for many years

Kidney Inhibition Swab Test (KIS™)

- Antibiotic detection test for fresh or thawed kidney tissue:
 - Fully implemented in cattle.
 - FSIS intends to implement in other production classes



NRP Sampling Results

Samples by Animal classCY2008 NRP

“Domestic Residue Scheduled”

Production Class	Number of Samples	Number of Confirmed Lab violations
Beef*	3,758	2
Bob veal	818	2
Dairy cows	1,099	0
Chickens	1,815	0
Market Hogs	1,464	3
Sows	1,371	0
Turkeys	952	0

* Beef includes : Beef Cows, Heifers, and Steers

Samples by Animal class

CY2008 NRP “Inspector Generated”

Production Class	Number of Samples	Number of Confirmed Lab violations
Beef*	9,324	69
Bob veal	32,890	292
Dairy cows	80,131	791
Market Hogs	5,255	2
Sows	3,019	1

* Beef includes : Beef Cows, Heifers, and Steers

Top Violative Residue Per production class CY2008 National Residue Program

Production Class	Top Violative Compounds
Beef*	Penicillin, Gentamycin Sulfate, and Sulfamethazine
Bob veal	Neomycin, Flunixin, and Penicillin
Dairy cows	Penicillin, Flunixin, and Sulfadimethoxine
Market Hogs	Gentamycin Sulfate, and Sulfamethazine

* Beef includes : Beef Cows, Heifers, and Steers

FSIS Enforcement

FSIS recognizes the need to monitor certain establishments due to:

- Repeatedly purchasing violative animals from same source
- Not reassessing HACCP plans for adequacy in monitoring residue hazard potential.

FSIS expects establishments to consider chemical hazards the same as other hazards

FSIS Residue Repeat Violator List

- 2 Lists with User Guides
- Residue Repeat Violator List for Use by FSIS Inspection Program Personnel
- Residue Repeat Violator List for Use by Livestock Markets and Establishments

http://www.fsis.usda.gov/Science/Chemistry/index.asp#Residue_List



QUESTIONS?