Food Safety and Inspection Service
Protecting Public Health and Preventing Foodborne Illness
U.S. National Residue Program for Meat, Poultry, and Egg Products - Update

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Atlanta, GA

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USAHA Pharmaceutical Issues Subcommittee
Food Safety and Inspection Service: 
Mission in Action

We are the public health agency in the USDA responsible for ensuring that meat, poultry, and processed egg products are safe, wholesome, and accurately labeled.

Our Authority
Through a series of Acts, Congress empowers FSIS to inspect all meat, poultry, and processed egg products in interstate commerce.

- Federal Meat Inspection Act (FMIA), 1906
- Agricultural Marketing Act (AMA), 1946
- Poultry Products Inspection Act (PPIA), 1957
- Humane Methods of Slaughter Act (HMSA), 1958
- Egg Products Inspection Act (EPIA), 1970
Food Safety and Inspection Service:
One Team, One Purpose

We work together to accomplish our mission of protecting public health.

More than 9,600 employees strong
Food Safety and Inspection Service:
FSIS Field Services Laboratories

In Fiscal Year 2017,
the FSIS laboratories performed over 4 million scientific analyses.

FSIS Office of Public Health Science
- Eastern Laboratory
  Athens, GA
- Midwestern Laboratory
  St. Louis, MO
- Western Laboratory
  Albany, CA

All three labs are ISO 17025 and ALACC accredited.
The U.S. National Residue Program (NRP) is an interagency program designed to identify, rank, and analyze for chemical contaminants in meat, poultry, and egg products.

- Administered by FSIS
- Program evaluated every year
- Annual Plan (aka “Blue Book”)
  - 2018 plan is posted on FSIS website
- Annual results (aka “Red Book”)
  - 2017 results are posted on FSIS website
Food Safety and Inspection Service: 

NRP Goals and Purpose

• Provide a structured process for identifying and evaluating chemical compounds of concern in food animals

• Test for the presence of chemical compounds in meat, poultry, and egg products
  - veterinary drugs
  - pesticides
  - hormones
  - environmental contaminants

• Identify need for regulatory follow-up when a violative level of chemical residue is found
Food Safety and Inspection Service: NRP Overview

- **Food and Drug Administration (FDA)**
  - Establishes tolerances for drugs and unavoidable contaminants
  - On-farm regulatory action

- **Environmental Protection Agency (EPA)**
  - Establishes tolerances for pesticides

- **Food Safety and Inspection Service (FSIS)**
  - Analyzes animal tissues
  - Prevents chemically adulterated product from entering food supply
Food Safety and Inspection Service: Residue Groups

**MOU - Memorandum of Understanding:**
- Working relationship between FSIS, FDA, EPA, AMS to coordinate regulatory activities for residues
- FSIS consults mainly with FDA and EPA, as needed, to share and compare updated information on regulations

**IRCG - Interagency Residue Control Group:**
- FSIS/FDA/EPA/AMS/CDC/ARS/APHIS
- Monthly meetings for updates and collaborating relative to the NRP

**SAT - Surveillance Advisory Team:**
- Interagency committee that determines the chemical compounds and production classes of public health concern
A residue violation occurs when a chemical residue is confirmed in food animal tissue and

- is in excess of an established tolerance
- or
- is a substance not approved for that production class
FSIS Inspection Program Personnel (IPP) collect samples of meat, poultry, and egg products at federally inspected establishments.

Samples are analyzed at FSIS laboratories for chemical residues of veterinary drugs, pesticides, and environmental contaminants.

Laboratory confirmed results are compared with tolerances established by the FDA and the EPA to prevent adulterated meat from entering into commerce.
Food Safety and Inspection Service:
NRP Domestic Scheduled Sampling Plans

• Headquarters-generated
  • Across all slaughter classes
  • Samples sent to FSIS laboratories:
    – Eastern Laboratory in Athens, GA
    – Western Laboratory in Albany, CA
  • Each sample is tested by all analytical methods in that lab.
  • Muscle is analyzed first. If positive, then target tissue is analyzed.
FSIS Inspection Program Personnel (IPP) conduct kidney inhibition swab (KIS™) test when they suspect that animals may have violative levels of chemical residues.

Positive samples are sent to the Midwestern Laboratory in St. Louis for confirmation.

Carcass/meat is condemned if the residue violation is found.
Food Safety and Inspection Service:

**NRP Import Sampling Plans**

- Samples are collected at ports of entry
- Both raw and processed products are tested
- Starting 2019 processed products will be tested only from
  - Countries that are ONLY eligible to export processed products
  - Countries that have not exported raw products during the previous fiscal year.
  - Any country/species combinations projected to export less than 10 lots of raw product to the U.S.
<table>
<thead>
<tr>
<th>Midwestern Laboratory</th>
<th>Eastern Laboratory and Western Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NRP Inspector-generated residue analysis</strong></td>
<td><strong>NRP Scheduled chemistry analysis</strong></td>
</tr>
<tr>
<td>• Multi-residue Method /Aminoglycosides (MRM/AMG)</td>
<td><strong>Eastern Lab</strong></td>
</tr>
<tr>
<td><strong>Scheduled chemistry analysis</strong></td>
<td>• MRM/AMG, Trace Metals, Arsenic, Avermectins, Hormones, Food Chemistry</td>
</tr>
<tr>
<td>• Sulfonamides</td>
<td><strong>Western Lab</strong></td>
</tr>
<tr>
<td></td>
<td>• MRM/AMG, Pesticides, Carbadox, β-Agonists, Nitrofurans</td>
</tr>
</tbody>
</table>
Food Safety and Inspection Service:

NRP Information

- FSIS Chemistry Laboratory Guidebook
### NRP Domestic – Scheduled Samples Results

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Samples</th>
<th># of Lab Confirmed Violative Carcasses</th>
<th># of Lab Confirmed Non-Violative Positive Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2014</td>
<td>6,066</td>
<td>10</td>
<td>34</td>
</tr>
<tr>
<td>FY 2015</td>
<td>6,445</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>FY 2016</td>
<td>7,067</td>
<td>26</td>
<td>24</td>
</tr>
<tr>
<td>FY 2017</td>
<td>7,029</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td>*FY2018</td>
<td>7,246</td>
<td>24</td>
<td>17</td>
</tr>
</tbody>
</table>

**Source:** FSIS Data Warehouse (DW) & Public Health Information System (PHIS)

* Preliminary Results
### Food Safety and Inspection Service:  
**NRP – Inspector Generated Sampling Results**  
**KIS™ Screen test Results**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of In-plant KIS™ Screens Tests</th>
<th>Number of In-plant KIS™ Screens Positive Tests</th>
<th># of Lab confirmed violative Analytes / (Number of violative Carcasses)</th>
<th># of Lab confirmed Non-violative Positive Analytes</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2014</td>
<td>210,516</td>
<td>4,859</td>
<td>1,384 / (1,125)</td>
<td>1,131</td>
</tr>
<tr>
<td>FY 2015</td>
<td>184,010</td>
<td>4,022</td>
<td>1,017/ (792)</td>
<td>873</td>
</tr>
<tr>
<td>FY 2016</td>
<td>182,184</td>
<td>3,649</td>
<td>883/ (724)</td>
<td>724</td>
</tr>
<tr>
<td>FY 2017</td>
<td>177,138</td>
<td>4,162</td>
<td>843 / (681)</td>
<td>714</td>
</tr>
<tr>
<td>*FY 2018</td>
<td>117,784</td>
<td>3,912</td>
<td>806 / (660)</td>
<td>628</td>
</tr>
</tbody>
</table>

*Source: FSIS Data Warehouse (DW) & Public Health Information System (PHIS)*  
*Preliminary Results*
Food Safety and Inspection Service:

**NRP – KIS™ Screen Positive tests and Lab Confirmed Results (carcass)**

<table>
<thead>
<tr>
<th>Year</th>
<th>KIS Screen Positive</th>
<th>Confirmed Lab Violative KIS Sample</th>
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<tbody>
<tr>
<td>FY2014</td>
<td>4,859</td>
<td>1,125</td>
</tr>
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Source: FSIS Data Warehouse (DW) & Public Health Information System (PHIS)

* Preliminary Results
• Additional National Residue Program information including sampling plans and residue sample results:
Food Safety and Inspection Service: Questions