Egg Sampling Data – Data Documentation

Overview

These data are the sampling results of FSIS’ routine microbiological sampling of Pasteurized Egg Products. FSIS collects pasteurized egg products from FSIS regulated establishments each month. Additional information can be found on the FSIS website.


Each row in this data set represents one sample collected and sent to an FSIS laboratory for analysis. Each sample is analyzed Salmonella Species.

Isolate characterization data will not be publicly posted in the datasets until the full characterization profile is completed.

Data contained in this dataset on tested product from establishments are not sufficient to determine an association to human illnesses. Further epidemiologic information is needed to determine if there is an association between the non-clinical isolates and human illnesses.

Data Dictionary

- EstablishmentID
  - Definition: A unique identifier (foreign key) that is used to identify an establishment across data tables in the FSIS databases.
- EstablishmentNumber
  - Definition: A letter/number combination uniquely identifying each establishment.
- EstablishmentName
  - Definition: The name of an establishment/plant on the FSIS grant of inspection.
- State
  - Definition: The state the establishment is located.
- ProjectCode
  - Definition: A short name given to easily identify a FSIS sampling project.
    - See Directive 10,210.1 for additional details about each project
    - Projects in this dataset
      - EM31 - Egg Products Sampling - Pasteurized - Egg Whites - Salmonella
      - EM32 - Egg Products Sampling - Pasteurized - Whole Egg or Yolks - Salmonella
- EM33 - Egg Products Sampling - Pasteurized - Whole Eggs with Added Yolks or Whole Egg Blends - *Salmonella*
- EM34 - Egg Product Sampling - Pasteurized - Whole Eggs or Yolks with > 2% salt or sugar added - *Salmonella*
- EM35 - Egg Products Sampling - Pasteurized - Dried Yellow Egg Products - *Salmonella*
- EM36 - Egg Products Sampling - Pasteurized - Dried Egg Whites - *Salmonella*
- EM37 - Egg Products Sampling - Pasteurized - Pan Dried Egg Whites – *Salmonella*
- EGG_DY_MIC01 - Egg Products Sampling – Dried Egg Products – *Salmonella*
- EGG_LQ_MIC01 - Egg Products Sampling – Liquid/frozen Egg Products – *Salmonella*

- **ProjectName**
  - Definition: The name of the FSIS sampling project.

- **FormID**
  - The form number used to uniquely identify a specific sample.

- **CollectionDate**
  - The date the FSIS inspector collected the sample at the FSIS regulated establishment.

- **SampleSource**
  - The type of product collected in the sample.

- **SalmonellaSPAnalysis**
  - Definition: The result of the analysis for *Salmonella* Species in the sample.
    - Negative = *Salmonella* was not found in the sample
    - Positive = *Salmonella* was found in the sample.

- **SalmonellaSerotype**
  - Definition: The name of the distinct variation of the tested species of bacteria. A list of the serotypes that are more commonly associated with human illness can be found on the CDC Web site at: [https://www.cdc.gov/nationalsurveillance/salmonella-surveillance.html](https://www.cdc.gov/nationalsurveillance/salmonella-surveillance.html)
  - When a sample screens positive for *Salmonella*, there may be more than one *Salmonella* serotype present in the enrichment. During the laboratory confirmation procedure, the enrichment broth is struck to agarose plates, and those plates are subsequently examined for typical colonies (those that appear to be *Salmonella*). As instructed in the Microbiology Laboratory Guidebook, *Chapter 4, section 4.8.1*, laboratory staff are to, “pick at least one typical isolated colony from any of the plates.” A colony would be from a single serotype, which could result in the lab identifying one serotype when multiple may be present in the original sample.

- **SalmonellaPFGEPattern**
  - Definition: The specific pattern identified from Pulsed-Field Gel Electrophoresis, the laboratory technique used to produce a DNA fingerprint for a group of the same type of bacteria.

- **SalmonellaAlleleCode**
  - Definition: The allele code designation assigned by CDC-PulseNet based on the number of differences in pre-defined genes, used to analyze the Whole Genome Sequencing
WGS is a DNA sequencing technology that can be used to help characterize bacterial pathogens.

- **Salmonella AMR Resistance Profile**
  
  Definition: The antimicrobial resistance profile of the antimicrobial drugs phenotypically tested to which isolates are found to be resistant using the National Antimicrobial Resistance Monitoring System (NARMS) panel 5. The Food and Drug Administration (FDA), in its [Guidance 152](https://www.fda.gov/medical-devices/medical-devices-guidance-152) classified antimicrobial drugs based on importance of the drug to human medicine. Isolates displaying resistance to multiple antimicrobial drugs tested by the NARMS panel are classified according to the antimicrobial drug(s) with the highest classification of risk. A resistance profile that is “pan-susceptible” means that the isolate is not resistant to any of the antimicrobial drugs tested.

### FDA’s Antimicrobial drug classification according to their importance to human medicine:

<table>
<thead>
<tr>
<th>Antimicrobial Class</th>
<th>Antimicrobial Drug</th>
<th>Abbreviation</th>
<th>FDA Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Generation Cephalosporins (Cephems)</td>
<td>Cephalothin (Cefazolin)</td>
<td>CEP</td>
<td>Important</td>
</tr>
<tr>
<td>3rd Generation Cephalosporins (Cephems)</td>
<td>Ceftiofur</td>
<td>TIO</td>
<td>Critically Important</td>
</tr>
<tr>
<td></td>
<td>Ceftriaxone</td>
<td>AXO</td>
<td>Critically Important</td>
</tr>
<tr>
<td>Aminoglycosides</td>
<td>Amikacin</td>
<td>AMI</td>
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</tr>
<tr>
<td></td>
<td>Apramycin</td>
<td>APR</td>
<td>Highly Important*</td>
</tr>
<tr>
<td></td>
<td>Gentamicin</td>
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</tr>
<tr>
<td></td>
<td>Kanamycin</td>
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</tr>
<tr>
<td></td>
<td>Streptomycin</td>
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<td>Highly Important</td>
</tr>
<tr>
<td>B-Lactam/B-Lactamase Inhibitor Combinations</td>
<td>Amoxicillin - Clavulanic Acid (Amoxicillin)</td>
<td>AUG</td>
<td>Highly Important</td>
</tr>
<tr>
<td>Carbapenems</td>
<td>Imipenem</td>
<td>---</td>
<td>Highly Important</td>
</tr>
<tr>
<td>Carboxypenicillins</td>
<td>Ticarcillin</td>
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</tr>
<tr>
<td>Cephamycins (Cephems)</td>
<td>Cefoxitin</td>
<td>FOX</td>
<td>Important</td>
</tr>
<tr>
<td>Folate Pathway Inhibitors</td>
<td>Sulfamethoxazole (1998-2003)</td>
<td>SMX</td>
<td>Not Classified</td>
</tr>
<tr>
<td></td>
<td>Sulfisoxazole (2004-2009)</td>
<td>FIS</td>
<td>Not Classified</td>
</tr>
<tr>
<td></td>
<td>Trimethoprim-Sulfamethoxazole</td>
<td>COT</td>
<td>Critically Important</td>
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<tr>
<td>Macrolides</td>
<td>Azithromycin</td>
<td>AZI</td>
<td>Critically Important</td>
</tr>
<tr>
<td></td>
<td>Erythromycin</td>
<td>ERY</td>
<td>Critically Important</td>
</tr>
<tr>
<td>Phenicols</td>
<td>Chloramphenicol</td>
<td>CHL</td>
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</tr>
<tr>
<td></td>
<td>Florfenicol</td>
<td>FFN</td>
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<tr>
<td>Quinolones</td>
<td>Nalidixic Acid</td>
<td>NAL</td>
<td>Important</td>
</tr>
</tbody>
</table>
### Relationship to Other Data

This data can be combined with other FSIS datasets using the EstablishmentID variable.

### Notes and Limitations

Information about FSIS sampling laboratories and procedures can be found on the FSIS website.

FSIS transitioned the egg sampling projects into PHIS in May 2014. The resulted in wording changes to the project names, but there were no changes to collection methods or analysis.

FSIS began analyzing egg samples for *Listeria Monocytogenes* in September 2016.

NULL values indicate that the specific variable is not available for that record.

**Prior Analysis**

Prior analysis using this data can be found on the FSIS website.