# Raw Chicken Parts Sampling Data – Data Documentation

## Overview

These data are the sampling results of FSIS' routine microbiological sampling of Raw Chicken Parts (Legs, Breasts, Wings) Products. Additional information can be found on the FSIS website.

https://www.fsis.usda.gov/wps/portal/fsis/topics/data-collection-and-reports/microbiology/salmonella-verification-testing-program

Each row in this data set represents one sample collected and sent to an FSIS laboratory for analysis. Each sample is analyzed for *Salmonella* Species and *Campylobacter*. In this data set, samples analyzed before August 27, 2018 were tested for *Campylobacter* using the direct plate method. Samples analyzed on August 27, 2018 and after were tested for *Campylobacter* using the enrichment method.

**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 numeric identifier 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 on the FSIS grant of inspection.
- State
  - Definition: The state where the establishment is located.
- ProjectCode
  - Definition: A short name given to easily identify an FSIS sampling project.
  - See Federal Register Notice (Docket No. FSIS-2014-0023 for additional details)

    https://www.fsis.usda.gov/wps/wcm/connect/b90ac243-af49-43a9-9f62-00aad090345b/2014-0023.pdf?MOD=AJPERES

  - Project in this dataset
    - HC_CPT_LBW01- Sampling for Chicken Parts – Legs, Breasts, and Wings

- 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
    - 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) data. WGS is a DNA sequencing technology that can be used to help characterize bacterial pathogens.
- SalmonellaAMRResistanceProfile
    - 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 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. (See the FDA Antimicrobial drug classification table below.)

- CampylobacterAnalysis1ml
    - Definition: The result of the analysis for *Campylobacter* Species in the sample that was tested using the direct plate method.
    - Negative = *Campylobacter* was not found in the sample
    - Positive = *Campylobacter* was found in the sample.
- CampylobacterAnalysis30ml
    - Definition: The result of the analysis for *Campylobacter* Species in the sample that was tested using the enrichment method.
    - Negative = *Campylobacter* was not found in the sample
    - Positive = *Campylobacter* was found in the sample.
- CampylobacterSpecies
    - Definition: Species designation for isolates belonging to the genus Campylobacter. Isolates are positive if they are species jejuni, coli, or lari.
- CampylobacterPFGEPattern
    - 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.
- CampylobacterAlleleCode
    - 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) data. WGS is a DNA sequencing technology that can be used to help characterize bacterial pathogens.
- CampyAMRResistanceProfile
    - 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 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:

| Antimicrobial Class | Antimicrobial Drug | Abbreviation | FDA Classification |
|---|---|---|---|
| 1st Generation Cephalosporins (Cephems) | Cephalothin (Cefazolin) | CEP | Important |
| 3rd Generation Cephalosporins (Cephems) | Ceftiofur | TIO | Critically Important |
| | Ceftriaxone | AXO | Critically Important |
| Aminoglycosides | Amikacin | AMI | Highly Important |
| | Apramycin | APR | Highly Important* |

| | | | |
|---|---|---|---|
| | Gentamicin | GEN | Highly Important |
| | Kanamycin | KAN | Highly Important |
| | Streptomycin | STR | Highly Important |
| B-Lactam/B-Lactamase Inhibitor Combinations | Amoxicillin - Clavulanic Acid (Amoxicillin) | AUG | Highly Important |
| Carbapenems | Imipenem | --- | Highly Important |
| Carboxypenicillins | Ticarcillin | TIC | Highly Important |
| Cephamycins (Cephems) | Cefoxitin | FOX | Important |
| Fluoroquinolones | Ciprofloxacin | CIP | Critically Important |
| Folate Pathway Inhibitors | Sulfamethoxazole (1998-2003) | SMX | Not Classified |
| | Sulfisoxazole (2004-2009) | FIS | Not Classified |
| | Trimethoprim-Sulfamethoxazole | COT | Critically Important |
| Macrolides | Azithromycin | AZI | Critically Important |
| | Erythromycin | ERY | Critically Important |
| Phenicols | Chloramphenicol | CHL | Highly Important |
| | Florfenicol | FFN | Highly Important* |
| Quinolones | Nalidixic Acid | NAL | Important |
| Ketolides | Telithromycin | TEL | Not Classified |
| Lincosamides | Clindamycin | CLI | Highly Important |
| Penicillins | Ampicillin | AMP | Highly Important |
| Tetracyclines | Tetracyclines | TET | Highly Important |

*Where noted, FSIS has classified drugs approved for animal use only using the same classification that FDA has designated for drugs in the same antimicrobial class that are approved for human use.

- Critically Important (C): Antimicrobial drugs which meet BOTH criteria 1 and 2 in Appendix A of the FDA Guidance for Industry #152 are considered critically important to human medical therapy.
- Highly Important (H): Antimicrobial drugs which meet EITHER criteria 1 or 2 in Appendix A of the FDA Guidance for Industry #152 are considered highly important to human medical therapy.
- Important (I): Antimicrobial drugs which meet EITHER criterion 3 and/or 4 and/or 5 in Appendix A of the FDA Guidance for Industry #152 are considered important to human medical therapy.
- Not Classified (NC): Antimicrobial drugs which are not given a classification in FDA's Guidance for Industry #152 (dated October 23, 2003).

## 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.
http://www.fsis.usda.gov/wps/portal/fsis/topics/science/laboratories-and-procedures

http://www.fsis.usda.gov/wps/portal/fsis/topics/science/laboratories-and-procedures/guidebooks-and-methods/microbiology-laboratory-guidebook/microbiology-laboratory-guidebook

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.

https://www.fsis.usda.gov/wps/portal/fsis/topics/data-collection-and-reports/microbiology/annual-progress-reports

https://www.fsis.usda.gov/wps/portal/fsis/topics/data-collection-and-reports/microbiology/quarterly-reports-salmonella/quarterly-progress-reports