Sampling of Pork Carcasses
International Center for Food Industry Excellence (ICFIE)
One goal...one vision. Serving through innovation, research and technology.
Texas Tech University, Lubbock, Texas, USA.

Why?
- Care must be taken during the harvest process to minimize microbial contamination of the carcass surface
- Pathogens, which threaten the safety of a product, are known to reside in fecal matter, milk, and ingesta (FMI)
- Within the U.S. FMI is prohibited on any livestock or poultry carcass after being processed (FSIS, PHIS directive 6420.2)
- Routine carcass sampling helps monitor plant hygiene and employee dressing procedures

How?
- Ideally a system of routine sampling system should be determined (ex: at least 1 per week for small facilities or 1 per 1,000 head in large facilities)
- Carcass sampling can be done using sterile sponges or swabs
- Typically recommended to sample multiple areas to represent the carcass surface
  - 100 cm² area (a sterile template can be used to ensure adequate area coverage)
  - See figure 1 for examples of locations on a pork carcass to sample:
    - Ham
    - Belly
    - Jowls (neck)
- Using one side of the swab, make several passes over the designated area, then turn swab over and sweep over the area in the opposite direction
- Both sides of the sampling instrument should have passed over the entire area of the template
- A plan should be in place to keep samples cold (≤ 40°C) until able to process

Purpose
- Typical carcass surface sampling would include detection of pathogens such as *Escherichia coli*, *Salmonella*, etc.
- In the U.S. the FSIS has performance standards of *E. coli* and *Salmonella* limits on pork carcass
  - Routine sampling is an important way to monitor this
- Different microbiological methods are available to perform microbial analysis on samples depending on the key objectives of the facility