Microbiological Testing
RECALL
Microbiological Testing (N-60)

“A consuming public will always be more sensitive than a sampling plan.”
How Many Patties Do You Have to Test?
99% Confidence

0.1% defect rate

\[ n = 5,000 \]
Scientific Process Control Validation

Walmart & Sam's Club Require Enhanced Beef Safety Measures
Facility Food Safety Certification Requirement (*Existing*)

- Global Food Safety Initiative (GFSI)

Testing Requirement (*Existing*)

- raw materials and/or finished ground beef for E coli 0157:H7 using N-60 sampling plan.

Process Control “Validation” Requirement (*New*)

- ground beef suppliers (trim intervention)
- beef slaughter house suppliers (combination of carcass interventions)
• **Verification** – the application of methods, procedures, tests, and other evaluations, in addition to monitoring, to determine whether a control is or has been operating as intended.

• **Validation** – obtaining evidence that a control measure or combination of control measures, if properly implemented, is capable of controlling the hazard to a specified level.

• **Monitoring** – the act of conducting a planned sequence of observations or measurements of control parameters to assess whether a control measure is under control.
Effect on Beef Recalls

Industry Average Recall Rate

Recurrent (recalls/month)

Recall Rate

Reduction

2 x
What Others Have to Say

• “The safety of foods is principally assured by control at the source, product design and process control, and the application of Good Hygienic Practices during production, processing, handling, distribution, storage, sale, preparation and use, in conjunction with the application of the HACCP system. This preventative approach offers more control than microbiological testing, because the effectiveness of microbiological examination to assess the safety of foods is limited.” - Codex (1997)

• “The Committee again endorse HACCP as an effective and rationale means of assuring food safety from harvest to consumption. Preventing problems from occurring is the paramount goal underlying any HACCP system. In the application of HACCP, the use of microbiological testing is seldom an effective means of monitoring CCPs...."  
  - U.S. National Advisory Committee on Microbiological Criteria for Foods (1997)

• “Microbiological tests should be selected and applied with knowledge of their limitations, benefits, and the purposes for which they are used. In many instances, other means of assessment are faster and more effective than microbiological testing for food safety assurance.”  
  - International Commission on Microbiological Specifications for Foods (2011)