Validation Study

Overview
I. Objective
II. Methodology
III. Individual Process Steps
IV. Overall Sequential Pattern
V. Summary & Conclusion
Validation Study Objective

Validate Changes in:

- Microbial Populations (APC, TCC, ECC)
- *Salmonella* Incidence
- *Campylobacter* Incidence / Load
- Individual Interventions
- Multiple-sequential Interventions

Validation Study

- Dr. Jarrett Stopforth
- Science-based
- Statistically Valid
Validation Process

SAMPLING BY STAGE OF PROCESSING

1. NY WASH 150 (75 Pre- 75 Post-)
2. I/O WASH #1 150 (75 Pre- 75 Post-)
3. I/O WASH #2 150 (75 Pre- 75 Post-)
4. OLR WASH 150 (75 Pre- 75 Post-)
5. CHILLER 150 (75 Pre- 75 Post-)

METHODOLOGY

Carcass Sampling

Step I

Step II

Step III
METHODOLOGY

Salmonella & General Microbe Analysis

Step I

Step II

Step III

Step IV

Step V

Step VI

Step VII

Confimation PCR

Salmonella

Campylobacter

Presumptives

Step V

PCR & General Microbe Analysis

Confirmation

Ref: FSIS/USDA MLG Ch. 6 (1998)

Ref: FSIS/USDA MLG Ch. 4.03 (2001)
**METHODOLOGY**

*Campylobacter Analysis*

- **Step I**
- **Step II**
- **Step III**
- **Step IV**
- **Step V**
- **Step VI**
- **Step VII**

**Confirmation PCR**

**NY Wash ENUMERATION**

![Graph showing log CFU/ml comparison between PRE and POST](image)
Inside/Outside Bird Wash 1

INCIDENCE

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<th>Percent Positives</th>
<th>Campylobacter</th>
<th>Salmonella</th>
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Pre Post

Pre-Chiller OLR Cabinet

ENUMERATION

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<th>APC</th>
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<th>TCC Campylobacter</th>
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Pre-Chiller OLR Cabinet
INCIDENCE

Percent Positives

Pre-Post

PRE

log CFU/ml

APC

ECC

TCC Campylobacter

Chlorine Chiller
ENUMERATION

log CFU/ml

PRE

POST

APC

ECC

TCC Campylobacter
Validation Study Conclusions

Validated Changes in:

- Microbes (1.5 – 2.5 log decrease)
- *Salmonella* Incidence (30% - 3% drop)
- *Campylobacter* Incidence (46% – 14%)
- Load (< log 1 - ~ 0)
- Individual Interventions – maintain & control
- Multiple-sequential Interventions – overall steady decreases