Frozen *E. coli* snack: How did we find out about the added ingredient?

**NY STATE PERSPECTIVE – COLLECTION, CULTURE, REPORTING, COMMUNICATION**

Dianna Bopp  
NYSDOH/Wadsworth Center  
120 New Scotland Ave, Albany, NY 12208  
djs03@health.state.ny.us/518-474-5822
Outline

- Obtaining food samples
- Isolation of STEC from food
- Reporting
- Communication
Coordinated Activities

Local Health Departments

NYSDOH

Food Protection

NYSDOH

BCDC

Wadsworth Center

NYS Dept. of Ag. & Mkts.

Other labs

Public

ICPs

Patients
Collection of samples

- 4 patients ( + 1 patient June 2013)
- Interviews regarding exposure, availability of left over product, condition of product
- Mini quesadillas and chicken patties from patient 1, mini-pizzas from patient 2
Collected from patient home
Product was frozen and received at the lab in a partially frozen state
Package was not intact
Patient had removed product from the bag on one occasion and the bag had not been reopened.
Challenges - Isolation of *E. coli* O121

- Not *E. coli* O157:H7
- Variety of organisms
- Low levels of stressed/injured cells
- High background flora
- Non-homogeneous distribution
- Complex food matrices
PCR assays

- STX – \(stx1/stx2\) real-time (\(stx1c, 1d, 2c, 2e, 2f\))
- Serogroup – O26, O103, 0111, 045, 0121, 0145
- Virulence genes – \(hlyA, eae, nleA, nleB\)
3/21 - 1:10 dilutions X 3 (50 grams of product each) – *E. coli* broth without bile salts or novobiocin
  - Stomach – overnight incubation

3/22 – 1-ml portions tested by PCR (all 3 positive)
  - Dilution plates set up on SMAC
  - Broths reincubated
3/23 (Saturday) – Additional 1-ml portion tested by PCR
  - Dilution plates set up for sample with lowest CT (3)
3/25 – 10 single colonies from each broth from primary enrichments and 10 single colonies and 2X10 pools for broth 3 secondary enrichment tested by PCR
  - 1/30 from primary and 1/30 from secondary positive for stx2 and O121
Mini-pizzas slices and chicken patties were negative
Testing timeline (continued)

- 3/26 - Isolates sent for PFGE
- 3/28 - Patterns uploaded to CDC database and posted on SharePoint site
USDA requested testing of quesadilla components
Component testing (continued)

- Approximately 3 quesadillas left for testing
- Attempted to separate components
- Same protocol as initially
- All negative
Reporting

- Report to Bureau of Communicable Diseases
- Report to Bureau of Food Protection
- Report to submitter
- Isolates uploaded to the CDC database
- Results posted on SharePoint site
Conference calls

Information Related to Non-FSIS Laboratory Results that is Routinely Requested for Review

- Name of lab, description of sample, photos, when collected, when received, who collected, condition of sample, accreditation, controls used, methodology, screening methods, confirmatory methods, PFGE
QUESTIONS

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- BCEHFP
- BCDC