Improving Lm Risk Assessment

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Exposure Assessment
Starting concentrations

- Routine Lm concentration monitoring data only available for selected foods

- Retail cross contamination risk assessment used FSIS monitoring data (56,985 samples, 239 positives) for deli meat distribution

- Assumed same distribution for deli cheese because of data gap.
Exposure Assessment
Growth / No growth

- Ice cream !?
- Cross contamination
Blue Bell’s ice cream could provide new clues to *Listeria* infectious dose

**BY JOAN MURPHY**

The Blue Bell Creameries’ outbreak may provide FDA scientists with a unique opportunity to enumerate *Listeria* in a frozen product, said Susan Mayne, the new director of the Center for Food Safety and Applied Nutrition (CFSAN), at an April 20 Food and Drug Law Institute (FDLI) meeting.

According to FDA, the infectious dose of *Listeria monocytogenes* is unknown, though it is assumed that fewer than 1,000 total organisms can cause disease in susceptible individuals.
Dose Response

CDC on caramel apple outbreak

“Three invasive illnesses (meningitis) were among otherwise healthy children aged 5–15 years.”

http://www.cdc.gov/listeria/outbreaks/caramel-apples-12-14/index.html
Outbreak attribution, 2008-2012

Interagency Food Safety Analytics Collaboration (IFSAC) Project. February 2015
FDA-FSIS Risk Ranking

- 2011 whole cantaloupes (Jensen farms)
- 2012 ricotta salata cheese (imported)
- 2013 farmstead cheese (Crave Brothers)
- 2014 Hispanic soft cheese from pasteurized milk (Roos Foods)
- 2014 Hispanic soft cheese from pasteurized milk (Oasis Brands)
- 2014 mung been sprouts (Wholesome Soy Products)
- 2014 caramel apples
- 2015 ice cream (Blue Bell)
The reduction in *L. monocytogenes*–contaminated RTE meat and poultry likely demonstrates the effect of several federal regulatory initiatives. First, ...USDA-FSIS required in 1999 that hazard analysis and critical control point systems be reassessed...Second, in 2003, USDA-FSIS issued the *Listeria* Rule, which encourages establishments to use combinations of postlethality treatments ...

In contrast, listeriosis outbreaks from dairy products showed no decrease in frequency throughout the study period.

Cartwright et al. EID 19(1):1-9 2013