



# **Blue Bell and *Listeria*** **A Surveillance Success Story**

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*Promoting and Protecting the Health of the Public and the Environment*



# Surveillance Sampling

- 2012 DHEC's Food Microbiology Laboratory applied for a five year FDA grant to become ISO 17025 Accredited
- In year three of the grant FDA mandated routine surveillance of manufactured food products that DHEC has regulatory authority over under the Manufactured Food Regulatory Program Standards Cooperative Agreement.



# Manufactured Food Regulatory Program

- SC-DHEC has been a recipient of this cooperative agreement since 2008
- Regulatory Authority
  - Ice
  - Bottled Water
  - Frozen Dessert Products



## Total of 54 Firms

- 11-Frozen Dessert Manufacturers
- 11-Frozen Dessert Distributors
- 11-Ice Manufacturers
- 8-Ice Distributors/Warehouses
- 13-Soft Drink and Water Bottling





# Frozen Dessert Products

- *Salmonella*
  - 1994-Schwans Ice Cream
  - 1996-Blue Bunny Ice cream
- *Listeria*
  - Associated with raw dairy products



# Methods

- *Salmonella*
  - Screening
    - VIDAS *Salmonella* SLM
  - Confirmation
    - XLD, HE, and BS
    - Vitek Confirmation



# Methods

- *Listeria*
  - Screening
    - VIDAS *Lis*
  - Confirmation
    - RAPID'L. *mono* and Modified Oxford
    - Vitek Confirmation



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# 1<sup>st</sup> Routine Sampling Event

- October 20<sup>th</sup> 2014
  - 15 samples, 4 Blue Bell
  - All samples negative for *Salmonella* and *Listeria*





## 2<sup>nd</sup> Routine Sampling Event

- January 29<sup>th</sup> 2015
  - 17 samples, 10 Blue Bell
  - 15 samples negative for *Salmonella* and *Listeria*
  - 2 Blue Bell samples positive for *Listeria monocytogenes*



## 2<sup>nd</sup> Routine Sampling Event

- Ten random samples of frozen dessert products were picked up from the Blue Bell Distribution Center in Lexington, SC
- Samples were picked up from the breakroom of the distribution center
  - Samples were chosen by what the inspector would enjoy eating

# Laboratory Testing

- Testing begins on February 3<sup>rd</sup>
- On February 5<sup>th</sup> presumptive *Listeria monocytogenes* is identified in two of the 10 products; The Great Divide Bar and The Chocolate Chip Country Cookie Sandwich
- Confirmatory testing including Pulsed-Field Gel Electrophoresis (PFGE) were completed on February 12<sup>th</sup> and results were uploaded to CDC PulseNet
- CDC inquiry





## February 12<sup>th</sup> 2015 Continued

- FDA and internal partners notified
- Decision is made to take additional samples from the distribution center
- One case of The Great Divide Bar and one case of The Chocolate Chip Country Cookie Sandwich retrieved from the distribution center in Lexington on February 13th
- Testing begins that night and continues over the holiday weekend
- All 30 samples tested test positive for *Listeria monocytogenes*



## **Blue Blue's Response**

- A quiet product call back occurs. All products that tested positive are quietly removed from the market on February 13<sup>th</sup>.
- The production facility in Brenham, Texas is identified as the production facility.
- Production line taken down for deep cleaning





## February 14<sup>th</sup> -Texas

- Texas Department of Health inspects the production facility
- Plans massive product sampling
  - Texas confirms in *L. monocytogenes* in same two products with different lot codes and in another product, Scoops, from same production line
  - That line is closed down and cleaned



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# End of Story...



## Until the Week of March 9<sup>th</sup> 2015

- Kansas Department of Health reports 4 patients from a single hospital match one of four rare strains of *L. monocytogenes* identified in South Carolina from ice cream products produced in Blue Bell in Brenham, TX by PFGE
- Most recent illness January 2015
- Hospital records available for the four patients show all were served Blue Bell Ice prepackaged single-serving products and milk shakes made from these products



## **Blue Blue's Response**

- March 13<sup>th</sup> Blue Bell removes all affected products (Scoops) from the market picking it up from schools and hospitals
- Production line in Brenham Facility is shut down

# Investigation Continues-Kansas

- Kansas Department of Health and Environment and Kansas Department of Agriculture
  - Collected environmental samples of surfaces likely to come in contact with food and from the hospital kitchen
    - All environmental samples test negative
  - Also collected Blue Bell Ice Cream still present at the hospital
    - One sample is positive-3 oz single serving chocolate ice cream cup
    - Production facility identified as Blue Bell's Broken Arrow plant in Oklahoma







## **Blue Blue's Response**

- April 3<sup>rd</sup> -voluntarily suspends operations at the Broken Arrow plant in Oklahoma



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# Investigation Continues-Oklahoma

- April 7<sup>th</sup> - FDA notifies Blue Bell that pints of Banana Pudding Ice Cream test positive for *Listeria monocytogenes*



## Blue Blue's Response

- April 7<sup>th</sup> -recalls all products produced at the Broken Arrow Plant in Oklahoma
  - This includes food service accounts, convenience stores and supermarkets in 24 states
- Blue Bell also reports that they began removing all products produced at the Broken Arrow Plant starting April 4<sup>th</sup>



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# End of Story...



## April 20<sup>th</sup> 2015

- Blue Bell expands voluntary recall to include all products on the market because they have the potential to be contaminated with *Listeria monocytogenes*
  - Half gallons of Chocolate Chip Cookie Dough produced March 17<sup>th</sup> and March 27<sup>th</sup> tested positive for *Listeria monocytogenes*
  - Environmental sampling shows presence of *Listeria monocytogenes* in production areas of Broken Arrow and a third plant in Syacauga, Alabama
- Announces it will carry out extensive cleaning and training programs at all of their production facilities.



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★ **Blue Bell Krazy Kookie Dough pint - \$10000 (SPICEWOOD)**



condition: new

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What we have here is one pint of unopened Bluebell goodness. Purchased just mere weeks ago, this is like an oasis in the desert for you ice cream lovers. Buyer assumes all responsibility for transport, and or any Listeria contracted from product as well. I will not distribute by the spoonful or part out. Cash offers only, price is firm.



# May 14<sup>th</sup> 2015

- Blue Bell enter voluntary agreements
  - Conduct root cause analysis to identify potential or actual sources
  - Retain an independent microbiologist to establish and review controls to prevent future problems
  - Notify Texas and Oklahoma of any presumptive positives for *Listeria monocytogenes*
  - Ensure that the company's Pathogen Monitoring Program outlines how the company will respond to presumptive positive tests
  - Institute a "test and hold" program



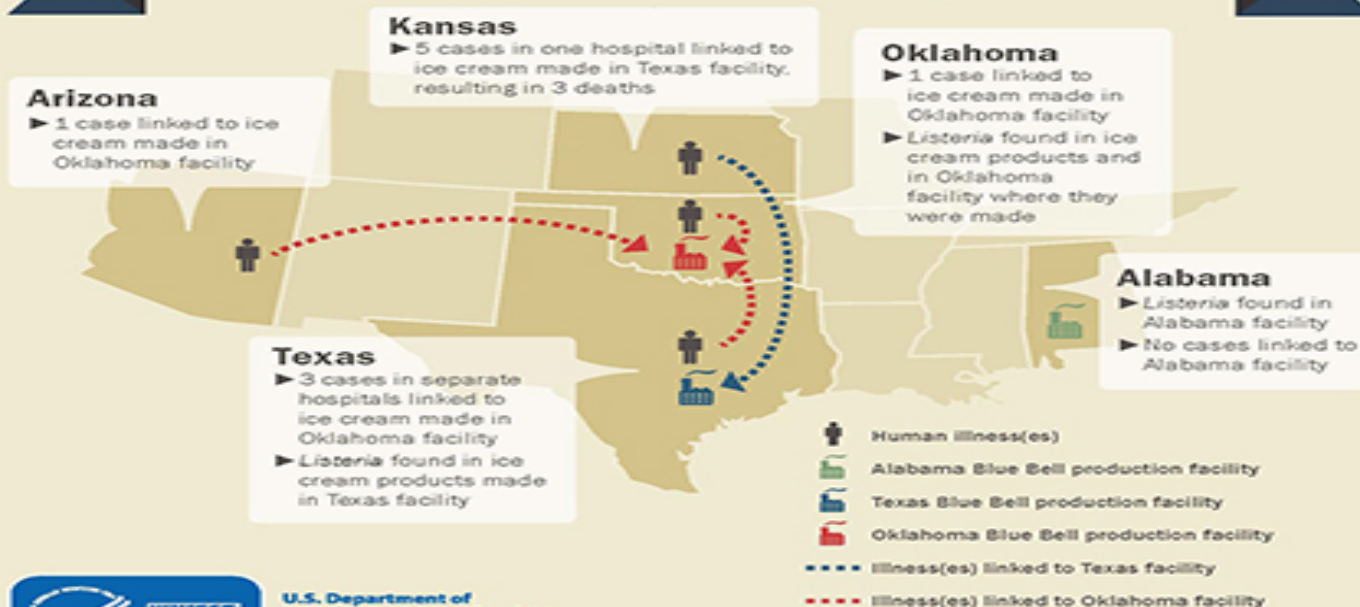
## May 15<sup>th</sup> 2015

- Blue Bell
  - Lays off – 37% of 3,900 employees
    - 750 full time employees
    - 750 part-time employees
  - Furloughs
    - 1,400 employees with partial pay
  - South Carolina distribution plant closed

## LISTERIA AND BLUE BELL ICE CREAM

Contaminated production facilities and illnesses linked to Blue Bell Creameries

**CDC recommends that people not eat, serve, or sell any recalled Blue Bell brand products. This complicated investigation of a listeriosis outbreak involved serious illnesses from 2010 through 2015 linked to two Blue Bell production facilities.**

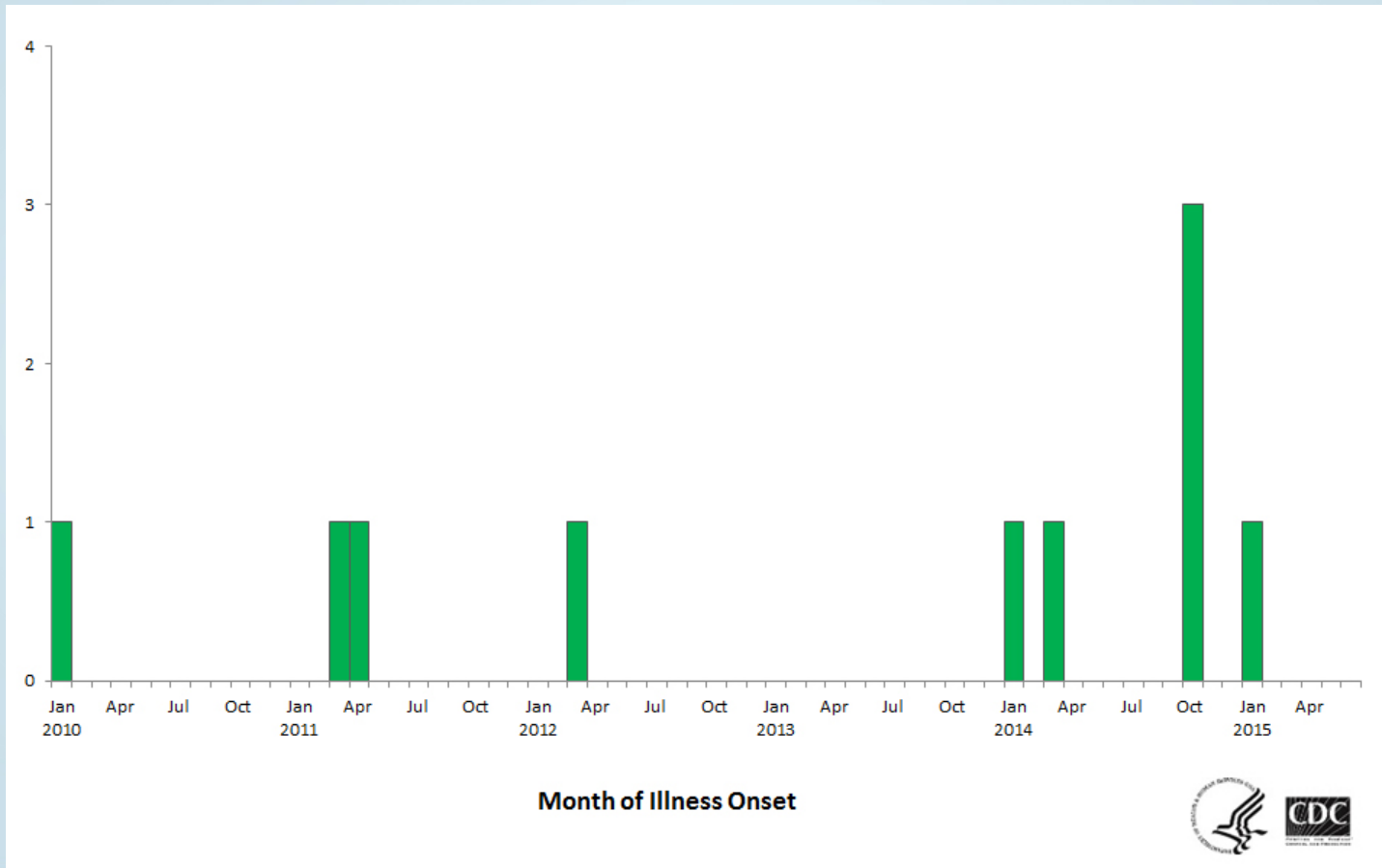


U.S. Department of  
Health and Human Services  
Centers for Disease  
Control and Prevention

Learn more: [www.cdc.gov/listeria/bluebell](http://www.cdc.gov/listeria/bluebell)



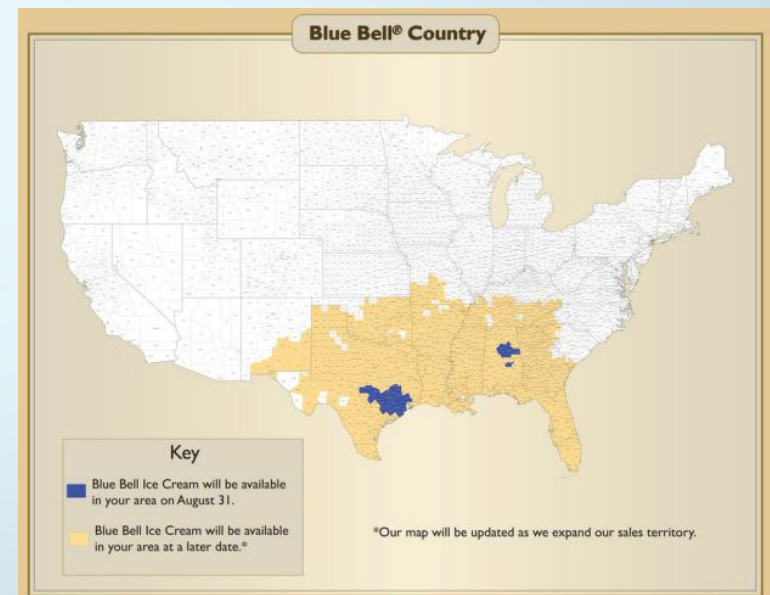
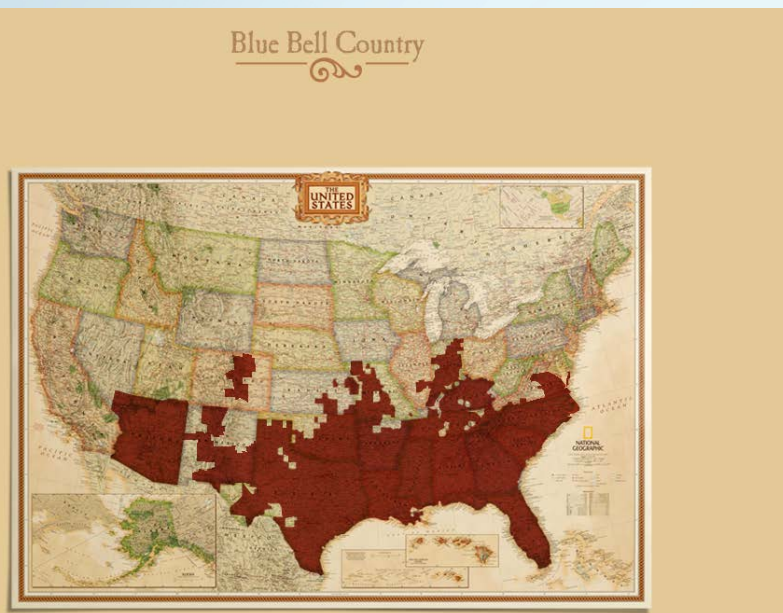
## Epidemic Curve for Blue Bell Ice Cream Outbreak of 2015





## August 17<sup>st</sup> 2015

- Announces plans to enter 15 of the 23 states where it previously sold it's products starting August 31<sup>st</sup>





## Far Reaching Implications

- Jeni's Splendid Ice Creams
  - Recalled in April 23<sup>rd</sup> 2015
  - *Listeria monocytogenes* found in April 2015 as a result of increase state surveillance testing
- Increased surveillance for “local” ice cream
  - Two local producers test positive for *Listeria* species (*L. welshimeri* and *L. innocua*)
- Revised FDA guidelines on *Listeria* in ice cream
- Ongoing investigation of Blue Bell by the US Department of Justice