Foodborne Outbreak Linked to Pork Consumption

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On July 23, 2015, the Washington State Department of Health issued a news release about an outbreak of *Salmonella* infections in humans linked to pork products.
Specifically, *Salmonella* I 4,[5],12:i:- infections linked to roaster pigs in WA state served at private events

– First finding of I,4,[5],12:i- in state of Washington
Epidemiological Investigation

• WA Department of Health lead agency on epidemiological investigation with Centers for Disease Control support

• USDA-FSIS sampling at the slaughter facility
Epi Curve

- Illness onset ranging from April 25, 2015 to August 12, 2015
Outbreak

- As of August 27, 2015, 152 people infected with the outbreak strain from Washington state
- Age range from 1 to 90 years, with a median age of 35
- 24/144 (17%) ill people were hospitalized
- No deaths have been reported
Salmonella Infections

• Common symptoms include diarrhea, fever and abdominal cramps
• Most people recover without treatment in 4-7 d
• Children younger than 5 years, adults older than 65 and people with weakened immune systems may be more likely to have severe illness
Epidemiological Investigation

• Trace-back findings identified pork produced by a slaughter plant in WA state as a likely source of this outbreak
• Hogs from commercial facilities in Montana (5) and Washington (1), and numerous small parties such as 4H shows
Background

- Salmonella I,4,[5],12:i-
  - Since 2000, the incidence of human infections with a multidrug-resistant strain of I,4,[5],12:i- has been increasing in Europe and the US
  - Resistant to ampicillin, streptomycin, sulfonamides, and tetracycline (ASSuT)
  - Associated with beef, pork, and poultry
Background

- Animal and food isolates in PulseNet
  - 1 pork chop in a NARMS retail meat study
  - Pig leg leftover in ill person’s freezer
  - Chorizo from restaurant outbreak
  - Pork, hog carcasses
  - Ground beef, boneless beef
  - Turkey, ground turkey
  - Dairy cattle “mash” feed
Background

- August 13, 2015, the slaughter plant issued a voluntary recall 116,262 lbs. of whole hogs and took steps to address sanitary issues.
In-plant Sampling

- FSIS conducted intensified sampling while the establishment took steps to address sanitary conditions
- Sampling revealed positive results for *Salmonella* I 4,[5],12:i:- on whole pigs for barbeque, associated pork products, and throughout the establishment
On August 27, 2015, the slaughter facility voluntarily suspended operations and issued an expanded recall of approximately 523,380 pounds of pork products that may have been contaminated with *Salmonella* I 4,[5],12:i:- (WA, OR, AK)
On-farm Sampling Request

- WA Department of Health request for on-farm sampling
Salmonella tied to pork sickens at least 56 in eight counties

Originally published July 23, 2015 at 3:55 pm | Updated July 23, 2015 at 6:19 pm

At least 56 people in eight counties in Washington state have been sickened by a rare strain of salmonella food poisoning apparently linked to eating pork, health officials said.

By JoNel Aleccia
Seattle Times staff reporter

At least 56 people in eight Washington counties have been sickened by a rare strain of salmonella food poisoning apparently linked to eating pork, health officials said Thursday. Most of the cases, 44, have occurred in King County.

Plan to test pigs for salmonella meets resistance

Originally published September 20, 2015 at 4:49 pm | Updated September 21, 2015 at 6:41 am

It’s unclear if health officials in Washington and Montana have authority to require tests at farms that sold pigs to a Pierce County slaughterhouse tied to a salmonella outbreak from barbecued whole hogs and other pork products.

By JoNel Aleccia
Seattle Times health reporter

With few other options, health officials in Washington and Montana are asking six farms in the two states to test pigs voluntarily to help determine the source of an ongoing salmonella outbreak that may have sickened thousands.

Health official stymied in quest to test farm pigs for salmonella

Originally published September 5, 2015 at 6:40 pm

A Washington state health official is hitting roadblocks in seeking to test farm pigs that could help track down the source of a salmonella outbreak that has sickened dozens, and perhaps thousands, in 11 counties.

By JoNel Aleccia
Seattle Times health reporter

A Washington state health official wants to test farm pigs to pinpoint the source of an ongoing salmonella outbreak tied to whole hogs, but he’s getting pushback from agriculture officials and pork-industry trade groups.
Pork Industry Response

• Cross-organization collaboration
  – Pork industry (NPB, NPPC and AASV) and state pork associations (WA and MT)
  – State animal health
  – USDA-FSIS
  – State, federal and local public health
Pork Industry Response

- State pork association and NPPC written official response to the request (literature review)
Pork Industry Response

• Numerous scientific studies have not identified specific interventions that consistently affect within-herd Salmonella prevalence and many of the studies are contradictory.
Pork Industry Response

• On-farm Salmonella status very often does not correlate with Salmonella findings or levels at the abattoir (Hurd et al., 2002; Gebreyes et al. 2004; Beloeil et al. 2004)
Pork Industry Response

• With the slaughter facility as the primary, and by far, most effective location for control of Salmonella in pork
  – Processing and handling/cooking having been shown to be the control points for Salmonella in pork

• Any on-farm or live-animal testing will not provide any assistance with the public health outcome
Industry Questions

• Beneficial impact on the public health outcome of this outbreak?
• Will this be voluntary?
• Assurance that all affected producers and their businesses will be protected?
Industry Questions

• Assurance that packers won’t refuse pigs from the farms sampled in this protocol?

• Reasons and process for on-farm testing so that the affected farmers make informed decisions?
Industry Questions

• Response plans?
• Who will be paying for the sampling and testing?
• How will the sampling outcomes be communicated to the farmers, industry, public and media?
Next Steps

• Meeting early November with Centers for Disease Control Division of Foodborne, Waterborne and Environmental Diseases
  – Outbreak response review
  – Research gaps and needs
  – Communication gaps and needs
Next Steps

• National Pork Board General Research Call

Understanding Salmonella I 4,[5], 12:i-:

1) Over the past few years, we have seen the salmonella serotype I 4,[5], 12:i- increase in testing prevalence. The industry wants to gain a better understanding as to why this specific serotype is increasing in prevalence. The Committee is encouraging researchers to submit a proposal to investigate the ecology/evolution of this serotype to help explain why it is increasing in prevalence within the U.S. Below is a list of topics for researchers to consider when developing a proposal:
   a. What makes this serotype unique compared to other serotypes?
   b. Resistance pattern to antibiotics, packing/processing and environmental pressures
   c. Ability to cause disease
   d. How does it adapt to its environment?
   e. Does it outcompete other serotypes?
   f. Do typical control procedures on the farm and during processing reduce/eliminate this serotype?

http://www.pork.org/pork-checkoff-research/research-request-proposal/
Thank you

This message funded by America’s Pork Producers