

Multistate Outbreak of *Salmonella* Newport Associated with Onions – June to September 2020

Final Report
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Agencies Involved

- California Department of Public Health (CDPH), Food and Drug Branch (FDB), Emergency Response Unit (ERU)
- CDPH, Food and Drug Laboratory Branch (FDLB)
- CDPH, Division of Communicable Disease Control (DCDC), Infectious Diseases Branch (IDB)
- United States Food and Drug Administration (FDA)
- California Department of Food and Agriculture (CDFA)

Dates of Investigation

July 2020 – October 2020

Executive Summary

From July to October 2020, the California Department of Public Health (CDPH) Food and Drug Branch (FDB), participated in a multistate outbreak investigation of *Salmonella* Newport (United States Centers for Disease Control and Prevention (CDC) cluster code 2007MLJJP-1) linked to the consumption of onions distributed by Thomson International Inc. (Thomson) located in Bakersfield, California.

A total of 1,127 Salmonellosis cases were reported from 48 states including 128 cases in California. Illness onset dates ranged from June 19, 2020 through September 11, 2020. The median age of patients was 41 years (range 1 to 102). Fifty-eight percent of ill people were female. A total of 167 individuals were hospitalized out of 705 individuals with information available. No deaths were reported. Out of the 380 case-patients who were interviewed, approximately 90% reported consuming onions in the week before illness onset.

Early in the outbreak response, CDPH staff initiated a traceback investigation focusing on tomatoes, cilantro, and onions served at multiple Mexican restaurants in the San Francisco Bay Area. In addition to the traceback investigation, samples of fresh cilantro were collected from Shasta Produce at the South San Francisco Produce Terminal, a Safeway location in Concord, and La Superior Mercados in Pittsburg on July 22, 2020. These samples were submitted to the CDPH Food and Drug Laboratory Branch (FDLB) and were later reported negative for *Salmonella*.

Additional epidemiological data collected by CDC and CDPH focused the investigation on fresh onions. In response, CDPH staff narrowed the traceback investigation to onions. Three of the four traceback legs converged to Thomson. In response to traceback work completed in California and many other states, management at Thomson initiated a recall of red, white, yellow, and sweet yellow onions distributed from May 1, 2020 to August 1, 2020.

CDPH staff assisted United States Food and Drug Administration (FDA) staff with environmental assessments at the onion packing house and onion fields in Central California.

Many samples were collected including onions, agricultural water, soil, scat, sediment, and environmental swabs. All samples were sent to FDA for testing. The environmental assessment team observed significant frog activity in all tailwater ponds. These tailwater ponds were in close proximity to the implicated onion fields.

FDA staff reported

traceback and epidemiological data all support Thomson as being the likely source of the outbreak.

CDPH closed this investigation on October 8, 2020.

Background

From July through October 2020, FDB, in coordination with CDPH Infectious Diseases Branch (IDB), California Department of Food and Agriculture (CDFA), FDA, and CDC participated in a multistate outbreak investigation of *Salmonella* Newport (CDC cluster code 2007MLJJP-1) linked to the consumption of onions distributed by Thomson International Inc. in Bakersfield, California.

A total of 1,127 Salmonellosis cases were reported from 48 states including 128 cases in California. Illness onset dates ranged from June 19, 2020 through September 11, 2020. The median age of patients was 41 years (range 1 to 102). Fifty-eight percent of ill people were female. A total of 167 individuals were hospitalized out of 705 individuals with information available. No deaths were reported. Out of the 380 case-patients who were interviewed, approximately 90% reported consuming onions in the week before illness onset.

The 128 California cases were from 24 local health jurisdictions including Alameda (5), Contra Costa (9), El Dorado (1), Fresno (1), Kern (9), Long Beach (2), Los Angeles (11), Marin (4), Monterey (2), Orange (1), Riverside (1), Sacramento (3), San Bernardino (1), San Diego (3), San Francisco (20), San Luis Obispo (1), San Mateo (24), Santa Barbara (1), Santa Clara (20), Siskiyou (1), Solano (4), Sonoma (2), Stanislaus (1), and Yolo (1).

Traceback Investigation

Based on the preliminary epidemiological information provided by IDB, CDPH staff initiated a traceback of suspected food vehicles on June 22, 2020. In all, IDB identified 16 case patients grouped into four clusters for further investigation. These cases were identified by IDB staff based on food history and exposure information. Clusters were identified where multiple cases had similar exposures at the same restaurant. The restaurants were Pancho Villa, Taqueria Las Mayas, and La Taqueria in San Francisco, and Taqueria San Bruno (See Attachment 1 for traceback diagram). Initially, the investigation focused on cilantro, tomatoes, and onions due to the association with ill patients and historical outbreak data. CDPH worked with the local health departments to obtain purchase records from the four restaurants for the three commodities of interest. The timeframe of interest was determined by exposure date, purchase frequency, and general shelf life of the affected products. After inspecting the records, CDPH continued contacting supplying firms throughout the distribution chain until determining the ranch or ranches on which each of the products was grown. This effort was hindered by products purchased at produce terminals with limited traceability as shown by the dotted lines in Attachment 1.

Throughout the traceback investigation, CDPH collaborated with colleagues at FDA and CDC, who were coordinating the investigation at the national level. As the investigation continued, onions became a stronger suspect vehicle due to illnesses from other states associated with dishes that did not contain tomatoes nor cilantro. On June 29, 2020 CDPH stopped traceback on cilantro and tomatoes and focused on onions.

Three of the four restaurant clusters investigated served onions supplied by Thomson during the time frame of interest. The additional restaurant cluster could not be definitively linked to Thomson onions, although records indicated that Thomson onions may have been available during the timeframe of interest. Attachment 1 shows the complete product flow diagram resulting from this traceback.

Recall

On August 1, 2020, Thomson initiated a voluntary recall of red, white, yellow, and sweet yellow onions due to possible *Salmonella* contamination (See Attachment 3). Brands of onions recalled included Thomson Premium, TLC Thomson International, Tender Loving Care, El Competitor, Hartley's Best, Onions 52, Majestic, Imperial Fresh, Kroger, Utah Onions, and Food Lion. The onions were distributed nationwide to 22 wholesalers and 384 retailers. The recall included all onions shipped from May 1 to August 1, 2020.

Inspection and Environmental Assessment

On July 22, 2020, CDPH conducted surveillance sampling of fresh cilantro at three locations. Ten bunches of cilantro were collected from Shasta Produce at the South San Francisco Produce Terminal, six bunches were collected from a Safeway location in Concord, and six bunches were collected from La Superior Mercados in Pittsburg (See Exhibit A). All samples were delivered to FDLB that same day.

On August 6-11, 2020, CDPH participated in a joint investigation with the FDA at Thomson in Bakersfield, CA. The investigation was led by [REDACTED] of the FDA with assistance provided by Environmental Scientist (ES) Christian Bond of CDPH, [REDACTED] of CDFA, and [REDACTED] of the FDA. The focus of this investigation team was an environmental assessment and sampling of all fields that Thomson utilized to grow onions of red, white, yellow, and sweet yellow varieties. Gladstone (GPS [REDACTED]) and Ranch 3 (GPS [REDACTED]) were fields leased by Mr. Thomson. In addition, Mr. Thomson contracted onion production at KEI Skone (GPS [REDACTED]), KEI Buena Vista (GPS [REDACTED]), R&G 161 (GPS [REDACTED]), and Nutrien (GPS [REDACTED]) (See Attachment 2). Onions were only grown at the Nutrien field for research purposes and were not distributed to the public. All onion harvesting occurred between the middle of May and the end of July.

ES Bond conducted a perimeter assessment and environmental sampling at Gladstone East. The Gladstone ranch was divided into a West and East portion with a tailwater basin at the south end between the two halves. Onions were grown on Gladstone East, while Gladstone West had been used to grow [REDACTED]. During the investigation, countless frogs were noted in the tailwater retention basin. In addition to the frogs, Mr. Thomson, the firm owner, described a flooding event that had occurred earlier in the year, where water filled the Gladstone tailwater retention basin. To avoid overflowing the basin, the water was used to irrigate a nearby field which was not associated with onion production. Environmental sampling included the collection of dead-end ultrafiltration (DEUF) water samples of agricultural water from the Gladstone tailwater basin, and two scat samples identified during the perimeter assessment. In addition, ES Bond conducted DEUF water sampling of the KEI Skone reservoir and the KEI Buena Vista reservoir, where frogs too numerous to count were again noted (See Exhibit B). All samples were submitted to the FDA for analysis. ES Bond also assisted with general record review and with evaluations of the packing house and equipment storage yard.

On September 17-22, 2020, CDPH participated in another joint investigation at Thomson in Bakersfield, CA. The investigation was led by [REDACTED] of the FDA with assistance provided by ES Christian Bond, ES Ken Zamora, and ES Nikolas Storm of CDPH, [REDACTED] of CDFA, and [REDACTED] of the FDA. This investigation team completed a reassessment of all the same fields completed in

August. ES Bond and ES Zamora obtained DEUF samples of the Central Branch Kern Island Canal at Gladstone ranch, a cistern between the canal and the sand filters, and an outlet at Ranch 3 that included water from all three wells on the ranch. Mr. Thomson stated that the canal water was not used in irrigation during the onion growing season, but the canal was sampled due to its proximity to the field. In addition to the DEUF water samples, ES Bond and ES Zamora also obtained one soil sample from an empty tailwater retention basin at the R & G 161 field, and five soil samples from the Nutrien field. Both R&G 161 and Nutrien were used to grow red/yellow onions during the time-period of interest. ES Bond and ES Storm also collected DEUF samples of water from the KEI Skone reservoir, KEI Buena Vista reservoir, KEI Buena Vista tailwater retention pond, and the Farmers canal at Nutrien ranch. All samples were submitted to the FDA for analysis.

During this second reassessment in September, the tailwater retention basin at Gladstone ranch was almost completely empty and the remaining water could not be safely accessed for sampling. Countless frogs were again noted at all reservoirs and retention basins, including the nearly empty Gladstone tailwater retention basin.

Laboratory Results

On July 27, 2020, FDLB reported that all twenty-two cilantro samples tested negative for *Salmonella*.

All samples collected from Thomson were analyzed by FDA laboratories. The FDA reported [REDACTED]

Summary of Outbreak Investigation Findings

On July 29, 2020, CDPH staff completed a traceback investigation focusing on tomatoes, cilantro, and onions served at four Mexican restaurants in the San Francisco Bay Area. Early investigational work focused on fresh cilantro served at these restaurants. Samples of cilantro collected by CDPH staff at multiple locations tested negative for *Salmonella*.

Additional epidemiological data collected by CDPH and FDA narrowed the investigation to fresh onions. Three of the four restaurant clusters investigated served onions supplied by Thomson International during the time frame of interest. The additional restaurant cluster could not be definitively linked to Thomson onions, although records indicated that Thomson onions may have been available during the timeframe of interest. In response to traceback work completed in California and many other states, on August 1, 2020, management at Thomson initiated a recall of red, white, yellow, and sweet yellow onions distributed from May 1, 2020 to August 1, 2020.

The FDA, CDFA, and CDPH initiated multiple joint inspections at Thomson facilities in Bakersfield and Holtville, California. Many samples were collected including onions, soil, sediment, scat, agricultural water, and environmental swabs. [REDACTED]

[REDACTED], epidemiological data and traceback convergence indicate Thomson as the likely source of the outbreak.

For the FDA outbreak report, please refer to Attachment 4.

Attachments

- Attachment 1 – Traceback diagram – *Salmonella* Newport - 2007MLJJP-1
- Attachment 2 – Thomson International Inc. field maps – Bakersfield Location
- Attachment 3 – Thomson International Incorporated recall notice
- Attachment 4 – FDA Final Incident Summary report
- Attachment 5 – FDA Thomson Bakersfield memo

Exhibits

- Exhibit A – Cilantro Sample Evidence Receipts
- Exhibit B – Photos of frogs at KEI Buena Vista reservoir