CFSAN HEALTH HAZARD EVALUATION

HHE # 10408 RES# 86156 Date Sent: 8/3/2020

Section A. Incident Summary (to be completed by requesting CSO)

1. PRODUCT INFORMATION (Include relevant lot information if appropriate.)

Red onions;
Packed under brand names of Thomson Premium, Onions 52, Utah Onions, Harley's Best, Onions 52, Imperial Fresh, TLC Thomson International, El Competidor

Thomson Premium packed in 50 and 25 lb.mesh sack, and
2 lb. mesh sack - UPC 33383 60101
3 lb. mesh sack - UPC 33383 60102

TLC International - 40 lbs. carton - no UPC

Utah onions 8 lb. mesh sack - Do not currently have UPC;
Hatley's Best 8 lb. mesh sack - UPC 0 33383 60004 8

Imperial Fresh in 25 lb. mesh sack, 50, 25, 10 and 5 lb. cartons -
25 lb. Carton (Sysco/Freshpoint - carton UPC 0 00 74865 52351 6

Onions 52 - 2 lbs. mesh sack, UPC 0 33383 60101
Sweet Yellow onions;
Packed under brand names of Thomson Premium, TLC
Thomson International.

Thomson Premium:
50 lb. mesh sack -No UPC

TLC Thomson International;
40 lb. Carton - No UPC
White onions;
Packed under brand names of Thomson Premium, Onions 52, El competitor.

Thomson Premium:
25 lb. mesh sack -No UPC
50 lb. mesh sack -No UPC

Onions 52:
8 lb. mesh bag - UPC 8 15222 01019 1

El Competitor
50 lb. mesh sack - No UPC
Yellow onions;
Packed under brand names of Onions 52, Majestic, Hartley's Best, Kroger, Food Lion, Thomson Premium, TLC Thomson International, El competitor, Tender Loving Care, Imperial Fresh.

Onions 52:
10 lb. mesh sack - UPC 33383 60004
3 lb. mesh sack - UPC 33383 60002

Hartley's Best:
10 lb. mesh sack - UPC 33383 60004

Majestic:
10 lb. mesh sack - UPC 33383 60004

Kroger:
3 lb. mesh sack - UPC 11110 91682

Food Lion:
3 lb. mesh sack - UPC35826 08630

Thomson Premium:
3 lb. mesh sack - UPC 33383 60004
5 lb. mesh sack - UPC 33383 60031
10 lb. mesh sack - UPC 33383 60004
50 lb. mesh sack - no UPC

TLC Thomson International
40 lb. carton - no UPC

El Competitor;
50 lb. mesh sack - UPC not received.

Tender Loving Care:
50 lb. mesh sack -no UPC

Imperial Fresh (Sysco/Freshpoint): UPC's not received
50 lb. carton
10 lb. carton
5 lb. carton
50 lb. mesh sack
25 lb. mesh sack UPC 0 00748616797 0

2. FIRM INFORMATION (Include supplier information if appropriate and note if domestic or foreign.)

Thomson International, Inc.
9852 Buena Vista Blvd
Bakersfield, CA 93307-9168

3. SOURCE OF PROBLEM

☐**Undeclared allergen:**
☐**Presence of contaminant or impurities (specify):**
☒**Microbial contamination (specify): *Salmonella* Newport**
☐**Presence of foreign bodies:**
☐**Other:**

4. NATURE OF PROBLEM (What happened to create the hazard/ problem? What is the extent of the problem and/or how was the problem identified? Include GMP, labeling errors, consumer complaints, etc.)

Investigation traceback for an outbreak of *Salmonella* Newport by CFIA, CDC and FDA have determined that red onions supplied by Thomson International Inc. are a likely source of contamination. FDA positing on July 31 and updated August 3, 2020, " Until the investigation is closed the product on hand will be stored in the warehouse which the entire inventory is on Hold pending the instigation.

Thomson has indicated that Onion 52 in Syracuse, UT and *(b) (4)*
(b) (4)

5. Have any adverse reaction reports or other indication of injuries or diseases been reported relating to this problem?

☐No ☒Yes 396 illnesses, 59 hospitalizations

6. PRECEDENT HHEs (Using the CFSAN HHE database, please summarize any related precedents. Please include reference numbers or copies of supporting precedent cases.)

HHE #	Date Signed	Hazard Identified
9955	8/28/2018	Outbreak of Salmonella
9868	5/01/2018	Outbreak of Salmonella
9995	11/19/2018	Salmonella in Ready to Cook items

Section B. Health Effects Review (to be completed by HHEB member)

7. ADVERSE REACTION INFORMATION

What are anticipated health effects associated with this problem? (i.e., consumption of the product and/or specific ingredients) Include narrative and please describe severity. Explain and cite literature references when applicable.

In the United States, an estimated 1.2 million people are infected with nontyphoidal Salmonella annually. *Salmonella enterica* serotype Newport (*Salmonella* Newport) is the third most common Salmonella serotype causing human salmonellosis infections in the United States (1). Foodborne outbreak investigations associated with *Salmonella* Newport have implicated multiple types of foods, including seeded vegetables (for example, tomatoes and cucumbers), beef, fruits, pork, poultry, sprouts, dairy and root vegetables (for example, onions). As of August 6, 2020, a total of 640 people infected with the outbreak strain of *Salmonella* Newport have been reported from 43 states. (https://www.cdc.gov/salmonella/newport-07-20/index.html)

The most common clinical illness caused by nontyphoidal *Salmonella* infection is gastroenteritis (2, 3). Nausea, vomiting, abdominal cramps begin 6 to 72 hours after ingestion of contaminated food or water. *Salmonella* gastroenteritis usually is a self-limited disease in a normal host. Although a study of *Salmonella* Newport outbreaks reported that children <5 years of age had the highest annual incidence of gastroenteritis (7.6 per 100,000), 27% of cases affected by gastroenteritis in the study were adults 20-49 years of age and 29% of cases were adults ≥50 years (1). Some patients, particularly those with impaired immunity, may develop chronic diarrhea after an acute episode. Patients from developed countries typically do not develop dysentery from salmonellosis, typified by bloody stools, fever, headaches and malaise. However, newborns with *Salmonella* infections may develop fever and blood stools.

Salmonella Newport is one of the *Salmonella* serotypes that have a propensity to invade the bloodstream, causing bacteremia and extraintestinal focal infections (3). Symptoms of salmonellosis bacteremia are fever, chills, sweating, myalgias and weight loss that may last for days or even weeks. Those at risk for invasive salmonellosis include neonates, infants, adults ≥ 65 years, patients with impaired immunity or immunosuppressing treatments, individuals with decreased gastric pH activity (from medications or surgery) and patients with parasite infections (for example, malaria or schistosomiasis) (3, 4). Children with sickle cell anemia are also at high risk of *Salmonella* bacteremia and osteomyelitis, an extraintestinal infection.

Focal extraintestinal infections may occur anywhere: brain (meningitis, brain abscess), cardiovascular system (endocarditis, aneurysms), and bones/joints (osteomyelitis, septic arthritis), etc.(2-4). Extraintestinal infections are difficult to cure and usually requires prolonged antimicrobial treatment and surgical debridement. *Salmonella* Newport infection is associated with meningitis. Neonates and infants < 4 months of age are at highest risk. Even with antibiotic treatment, 10% of patients with meningitis from salmonellosis die (3).

This outbreak includes raw onions and ready-to-eat food products with onions. *Salmonella* species (spp) can survive refrigeration and remain viable at room temperatures or reduced temperatures for weeks (1, 3). Individuals eating raw onions and RTE food products with onions are at reasonable risk of contracting salmonellosis. Onions and other food products in this recall can be eaten after cooking or heating, but individuals who do not cook or heat onions adequately at high enough temperatures and time periods are at risk of contracting salmonellosis. *Salmonella* can survive cooking times for less than 12 minutes at less 60 degrees Celsius (˚ C) or 140 degrees Fahrenheit

(˚F). Cooking food at 54.4▪ C or 130 ˚F for 1 hour or 60 ˚ C or 140 ˚F for at least 15 minutes can kill *Salmonella* spp.

Many recipes call for onions to be cut with knives on boards, mixed with other foods, like salad greens. Onions may be stored in containers with other onions or food products. There is a reasonable probability that contaminated onions can contaminate food surfaces, such as cutting boards and utensils (2). Cooked or raw food that had contact with contaminated onions or food surfaces may also become contaminated. Studies have suggested that infants in shopping carts contaminated with *Salmonella* from meat or poultry are at risk of contracting salmonellosis (2, 3).Thus, individuals who touch contaminated food surfaces or ingest food that had contact with contaminated surfaces with their hands can become infected with salmonellosis if unwashed fingers touch their mouths.

1. Crim SM, Chai SJ, Karp BE, Judd MC, Reynolds J, Swanson KC, et al. *Salmonella enterica* Serotype Newport Infections in the United States, 2004-2013: Increased Incidence Investigated Through Four Surveillance Systems. Foodborne pathogens and disease. 2018;15(10):612-20. Epub 2018/07/24. doi: 10.1089/fpd.2018.2450. PubMed PMID: 30036085; PubMed Central PMCID: PMCPMC6263033.
2. Hohmann EL. Nontyphoidal *Salmonella*: Microbiology and Epidemiology. 2019 [cited August 12, 2020]. In: UpToDate [Internet]. Waltham, MA: Wolters Kluwer, [cited August 12, 2020]. Available from: https://www.uptodate.com/contents/nontyphoidal-salmonella-microbiology-and-epidemiology?search=Salmonella&source=search_result&selectedTitle=3~150&usage_type=default&display_rank=3.
3. Ochoa TJ, Santisteban-Ponce J. *Salmonella*. In: Cherry JD, Harrison GJ, Kaplan SL, Steinbach WJ, Hotez PJ, editors. Feigin and Cherry's Testbook of Pediatric Infecious Diseases. 8th ed. Philadelphia, PA: Elsevier; 2020.
4. Hohmann EL. Nontyphoidal *Salmonella* Bacteremia. 2020 [cited August 12, 2020]. In: UpToDate [Internet]. Waltham, MA: Wolters Kluwer, [cited August 12, 2020]. Available from: https://www.uptodate.com/contents/nontyphoidal-salmonella-bacteremia?search=Salmonella&source=search_result&selectedTitle=4~150&usage_type=default&display_rank=4.

8. AT RISK POPULATION

Are there certain population(s) of consumers most likely to use and/or be most at risk from exposure to this problem or hazard? (Please list all that apply and provide additional explanation if necessary.)

☒No – the general population is at risk: for self-limited gastroenteritis

☒Yes – check all that apply (These are populations at risk for severe or chronic gastroenteritis and invasive salmonellosis)

- ☒Infants
- ☒Children (< 4 years of age)
- ☐Pregnant women, nursing women, or women of childbearing age
- ☒Elderly consumers
- ☐Individuals with allergy/intolerance to (food/product)
- ☒Immunosuppressed individuals

☒Medical conditions (e.g., diabetes, celiac disease): sickle cell anemia, parasite infections, decreased gastric pH activity.

☒Other (please describe): neonates

9. Is the problem easily identified by the user or are there other mitigating circumstances that lessen the probability that the product will be consumed?

☒No ☐Yes

10. What is the hazard associated with use of the product? (Select one. If more than one is selected, please explain.)

☒Life-threatening (death has or could occur): severe gastroenteritis or invasive salmonellosis (bacteremia, extraintestinal infections)

☐Results in permanent impairment of a body function or permanent damage to a body structure

☒Necessitates medical or surgical intervention (including hospitalization) to preclude or reverse permanent damage to a body structure or permanent impairment of a body function: severe or chronic gastroenteritis, invasive salmonellosis (bacteremia, extraintestinal infections)

☐Temporary or reversible (without medical intervention)

☒Limited (transient, minor impairment or complaints): self-limited gastroenteritis

☐No adverse health consequences

☐Hazard cannot be assessed with the data currently available

11. What is the probability of each adverse event occurring, as specified in Item 10? (If more than one item is selected below, specify the corresponding health hazard.)

☐Highly likely to occur (every time the product is used)

☒Likely to occur (reasonable probability of occurrence)

☒Might occur (remote probability of occurrence)

☐Unlikely to occur

☐Unknown (please explain):

☐Not applicable

Conclusion:

Raw onions, ready-to-eat food products with onions: Normal hosts who had eaten raw contaminated onions or RTE food products with contaminated onions or who had contact with food surfaces/utensils contaminated from raw onions and RTE food products are at reasonable risk of contracting a self-limited gastroenteritis.

High-risk individuals (see part 8) who ingest raw onions or RTE food products with contaminated onions or had contact with food surfaces contaminated by such products are at reasonable risk for severe gastroenteritis or invasive salmonellosis (bacteremia, extraintestinal infections).

Cooked onions or food products that need to be cooked or heated: There is a remote probability that cooked onions or food products that need cooking or heating prior to consumption may not be adequately heated at high enough temperatures for an adequate time period to kill *Salmonella*. Thus, normal hosts who had ingested these food products may be at remote risk of contracting gastroenteritis, while at-risk individuals are are at remote risk of contracting invasive salmonellosis or severe gastroenteritis.

Event ID: 86156 **Status:** Ongoing **Updated:** 08/25/2020 **Role:** Center Recall Coordinator

Recall Details

1. Event Information
2. Summary and Termination Information
3. Center Information
4. Product Information
5. Firm and Contact Information

Event Information

Recall Event ID	86156	**RFR EON ID**	EON-434221
Recall Number(s)	F-1272-2020 F-1273-2020 F-1274-2020 F-1275-2020	**RFR EON URLs**	https://eon.fda.gov/eon/browse/EON-434221
District	Human And Animal Food West V	Coordinator	Marjorie D. Schultz
Firm Awareness Date	07/30/2020	District Awareness Date	07/30/2020
Center **(Int)**	Center for Food Safety and Applied Nutrition	Coordinator	Leonara K Darlington
Recalling Firm FEI	1000331118	Name **(Int)**	Thomson International, Inc.
Manufacturer FEI	3004391505	Name **(Int)**	Thomson International, Inc
Respons ble Firm FEI	3004391505	Name	Thomson International, Inc
Public Reason for Recall	Traceback investigation into an outbreak of Salmonella Newport illnesses found red onions to be a suspect vehicle for the outbreak. After notification from FDA, firm initiated a recall.		
Edit Mode	Viewable	Recall Status **(Int)**	Ongoing
Voluntary/Mandated **(Int)**	FDA Initiated	Date **(Int)**	08/01/2020
Firm Recommended Recall Depth	Consumers/User	Date Distribution Chain Notified	07/30/2020
Recall Initiation Date **(Int)**	08/01/2020	Firm Initial Notification	Combination
Determination Date	08/25/2020	Center Coordinator Assigned Date	08/05/2020
Classification Date	08/25/2020	FDA Sample Number	

Complete Reason for Recall	Investigation traceback for an outbreak of Salmonella Newport by CFIA, CDC and FDA have determined that red onions supplied by Thomson International Inc. are a likely source of contamination. FDA positing on July 31 and updated August 3, 2020, "Until the investigation is closed the product on hand will be stored in the warehouse which the entire inventory is on Hold pending the instigation. Thomson has indicated that Onion 52 in Syracuse, UT and (b) (4)
Root Cause	Other
Root Cause Narrative	Currently under investigation
Center Comments	Class I, CFSAN agrees with Audit Check Modification.
Type Of Injury	Outbreak of Salmonella Newport - red onions are a likely source of contamination.
Quantity Manufactured	
Quantity Distributed **(Int)**	*(b) (4)* tons
Number of Domestic Consignees	(b) (4)
Number of Foreign Consignees	(b) (4)
Distributed From	(b) (4)
Distribution Pattern **(Int)**	*(b) (4)*
Manufactured From	**To**
Public Summary of Recall Strategy **(Int)**	Firm issues press release on August 1, 2020. Direct customers were initially notified by phone, followed with a recall letter sent by e-mail on August 1, 2020. Press advised consumers, restaurants and retailers not to eat, sell or serve onions from Thompson International or products that contain the onions.
Recall Strategy	Date initiated: July 30, 2020; Notification will be completed by Company letter via email; All points of contacts will be requested to forward copies to any of their customers that may have received the onions; Non-Responding Consignees will also be contacted via phone call ; Follow-up phone call Distribution was ceased July 30, 2020; Until the investigation is closed the product on hand will be stored in the warehouse which the entire inventory is on Hold pending the instigation. Returned product will be kept separate and also placed on hold. The recalled product will be destroyed, with notification provided to FDA
Effectiveness Check Level	A**Percent** 100
Audit Check Level	A**Percent** 100
Audit/Effectiveness Check Modification	Audit (b) (4) US accounts was issued 8-3-2020 with instructions to collect distribution lists and forward to HAFW5

RAC Assignment Date Issued	08/03/2020	RAC Assignment Date Completed	
District RAC Assignment Needed?	Yes	District Justification for No Audit Check	
District Recommendation for No Audit Check Comments		Center Agrees with District RAC Assignment Recommendation	Yes
Center RAC Assignment Needed?		Center Justification for No Audit Check	
Center Recommendation Justification Comments		Center Entering Recall	

What Consumers Should Do **(Int)**

Expanded Comments for
What Consumers Should Do **(Int)**

Firm Press Issued **(Int)** 08/01/2020 **URL** (Int) fda.gov/safety/recalls-market-withdrawals-safety-alerts/thomson-international-inc-conducts-voluntary-recall-red-yellow-white-and-sweet-yellow-onions-because

State Press Issued **(Int)** **URL** (Int)

FDA Press Issued **(Int)** **URL** (Int)

Additional Medical Product
Information **(Int)** **URL** (Int)

Consignee Details

List of Domestic and/or Foreign Consignees, Distr bution addresses or comments

Canadian distribution *(b) (4)*

Consignees	Approx. Number	Consignees	Approx. Number
Distributor	0	Repacker/Relabeler	0
Retailer	0	Direct Accounts	(b) (4)
Institution	0	Veterans Administration	0
Medical Facility	0	Department of Defense	0
Internet Sales	0	Manufacturer	0
Physician	0	USDA	0
Consumer/Patient	0	Other	0

Summary/Termination Information

Quantity Recovered/Number of
Units Corrected

Product Disposition

Number of Consignees Responding
to Notification

Effectiveness Check Information

Recall Audit Check Count Audit Count Summary : Not Available

Audit Check Information

Section of Law Violated

Preventive Action Taken by Firm	We will determine appropriate corrective actions based on root cause analysis. All potentially affected products are being recalled and the 2020 growing season is finished.
District Follow-Up	
District Review	
Legal Action	
Class I Termination Recommendation	
Recommended/Prepared By	
District Management Approval	**Date**
Center Concurrence	
Recall Completed Date	
Termination Letter Date	

CFSAN Center Information

Docs Rcvd at Ctr Date	08/04/2020
HHE Sent	08/03/2020
HHE Signed	08/17/2020
HHE Precedent	10408
Outbreak Associated	Y
CFSAN CORE Incident EON ID	434221

Product Information

Product : 1

Industry-Product Code	25-TFC25
Precedent Recall	10408
Precedent Policy	
Precedent Policy Comment	
Product Description **(Int)** (Label/Packaging)	Red onions; Packed under brand names of Thomson Premium, Onions 52, Utah Onions, Harley's Best, Onions 52, Imperial Fresh, TLC Thomson International, El Competidor Thomson Premium packed in 50 and 25 lb.mesh sack, and 2 lb. mesh sack - UPC 33383 60101 3 lb. mesh sack - UPC 33383 60102 TLC International - 40 bs. carton - no UPC Utah onions 8 b. mesh sack - Do not currently have UPC; Hatley's Best 8 b. mesh sack - UPC 0 33383 60004 8 Imperial Fresh in 25 lb. mesh sack, 50, 25, 10 and 5 b. cartons - 25 lb. Carton (Sysco/Freshpoint - carton UPC 0 00 74865 52351 6 Onions 52 - 2 lbs. mesh sack, UPC 0 33383 60101
Trade Name **(Int)**	
Generic Name **(Int)**	
Product Usage	Human consumption
Product Quantity Distributed **(Int)**	*(b) (4)* - all varieties
Recall Number **(Int)**	F-1272-2020

Product Public Reason for Recall **(Int)**	Traceback investigation into an outbreak of Salmonella Newport illnesses found red onions to be a suspect vehicle for the outbreak. After notification from FDA, firm initiated a recall.
Field Recommended Classification	Class I
Center Determination/Classification **(Int)**	Class I
Center Recommended Depth	Consumers/User
Product Effectiveness Check Level	A **Percent** 100
Product Audit Check Level	A **Percent** 100
Code Information **(Int)**	ALL CODES- shipped from May 1, 2020 to present Lot Codes: 533-543-553-563-450
Expected Life	
Shelf Life	
CFSAN Reason	Salmonella

Product : 2

25-TFC25	Industry-Product Code
10408	Precedent Recall
	Precedent Policy
	Precedent Policy Comment
	Product Description **(Int)** (Label/Packaging)
Yellow onions; Packed under brand names of Onions 52, Majestic, Hartley's Best, Kroger, Food Lion, Thomson Premium, TLC Thomson International, El competitor, Tender Loving Care, Imperial Fresh. Onions 52: 10 lb. mesh sack - UPC 33383 60004 3 lb. mesh sack - UPC 33383 60002 Hartley's Best: 10 lb. mesh sack - UPC 33383 60004 Majestic: 10 lb. mesh sack - UPC 33383 60004 Kroger: 3 lb. mesh sack - UPC 11110 91682 Food Lion: 3 lb. mesh sack - UPC35826 08630 Thomson Premium: 3 lb. mesh sack - UPC 33383 60004 5 b. mesh sack - UPC 33383 60031 10 lb. mesh sack - UPC 33383 60004 50 lb. mesh sack - no UPC TLC Thomson International 40 lb. carton - no UPC El Competitor; 50 b. mesh sack - UPC not received. Tender Loving Care: 50 lb. mesh sack -no UPC Imperial Fresh (Sysco/Freshpoint): UPC's not received 50 b. carton 10 lb. carton 5 b. carton 50 lb. mesh sack 25 lb. mesh sack UPC 0 00748616797 0	Trade Name **(Int)**
	Generic Name **(Int)**
	Product Usage
Human consumption	Product Quantity Distributed **(Int)**
(b) (4) - all varieties	Recall Number **(Int)**
F-1273-2020	Product Public Reason for Recall **(Int)**
Traceback investigation into an outbreak of Salmonella Newport illnesses found red onions to be a suspect vehicle for the outbreak. After notification from FDA, firm initiated a recall.	Field Recommended Classification
Class I	Center Determination/Classification **(Int)**
Class I	Center Recommended Depth
Consumers/User	Product Effectiveness Check Level

A **Percent** 100	Product Audit Check Level
A **Percent** 100	Code Information **(Int)**
ALL CODES- shipped from May 1, 2020 to present; Lot coded 511-521-531-541-551-561-571-591-450	Expected Life
	Shelf Life
	CFSAN Reason
Product : 3	Industry-Product Code
25-TFC25	Precedent Recall
10408	Precedent Policy
	Precedent Policy Comment
	Product Description **(Int)** (Label/Packaging)
White onions; Packed under brand names of Thomson Premium, Onions 52, El competitor. Thomson Premium: 25 lb. mesh sack -No UPC 50 lb. mesh sack -No UPC Onions 52: 8 b. mesh bag - UPC 8 15222 01019 1 El Competitor 50 lb. mesh sack - No UPC	Trade Name **(Int)**
	Generic Name **(Int)**
	Product Usage
Human consumption	Product Quantity Distributed **(Int)**
(b) (4) - all varieties	Recall Number **(Int)**
F-1274-2020	Product Public Reason for Recall **(Int)**
Traceback investigation into an outbreak of Salmonella Newport illnesses found red onions to be a suspect vehicle for the outbreak. After notification from FDA, firm initiated a recall.	Field Recommended Classification
Class I	Center Determination/Classification **(Int)**
Class I	Center Recommended Depth
Consumers/User	Product Effectiveness Check Level
A **Percent** 100	Product Audit Check Level
A **Percent** 100	Code Information **(Int)**
ALL CODES -shipped from May 1, 2020 to present; Lot Codes: 512-522-532-450	Expected Life
	Shelf Life
	CFSAN Reason
Product : 4	Industry-Product Code
25-TFC25	Precedent Recall
10408	Precedent Policy
	Precedent Policy Comment

	Product Description **(Int)** (Label/Packaging)
Sweet Yellow onions; Packed under brand names of Thomson Premium, TLC Thomson International. Thomson Premium: 50 lb. mesh sack -No UPC TLC Thomson International; 40 lb. Carton - No UPC	Trade Name **(Int)**
	Generic Name **(Int)**
	Product Usage
Human consumption	Product Quantity Distributed **(Int)**
(b) (4) - all varieties	Recall Number **(Int)**
F-1275-2020	Product Public Reason for Recall **(Int)**
Traceback investigation into an outbreak of Salmonella Newport illnesses found red onions to be a suspect vehicle for the outbreak. After notification from FDA, firm initiated a recall.	Field Recommended Classification
Class I	Center Determination/Classification **(Int)**
Class I	Center Recommended Depth
Consumers/User	Product Effectiveness Check Level
A **Percent** 100	Product Audit Check Level
A **Percent** 100	Code Information **(Int)**
ALL CODES -shipped from May 1, 2020 to present; Lot Codes: 571	Expected Life
	Shelf Life
	CFSAN Reason

Recalling Firm Information

FEI	1000331118
Firm Name **(Int)**	Thomson International, Inc.
Address **(Int)**	9852 Buena Vista Blvd
City **(Int)**	Bakersfield
State/Province **(Int)**	California
Country **(Int)**	United States
Postal Code **(Int)**	93307-9168
Telephone	**Ext** **Country Code**
Comment	

Most Responsible Individual

Official's Name	Jack S. Thomson
Title	President/CEO
Firm Name **(Int)**	Thomson International, Inc.
Address **(Int)**	9852 Buena Vista Blvd

City **(Int)**	Bakersfield		
State/Province **(Int)**	California		
Country **(Int)**	United States		
Postal Code **(Int)**	93307-9168		
Telephone	**Ext**	**Country Code**	
Facsimile	**Ext**	**Country Code**	
E-mail Address	jacksthomson@aol.com		
Comment	Cell: 661-301-2719		

Manufacturer Information

FEI	3004391505		
Firm Name **(Int)**	Thomson International, Inc		
Address **(Int)**	11220 S Vineland Rd		
City **(Int)**	Bakersfield		
State/Province **(Int)**	California		
Country **(Int)**	United States		
Postal Code **(Int)**	93307-9489		
Telephone	661-845-1111	**Ext**	**Country Code**
Comment			

Responsible Firm Information

FEI	3004391505		
Firm Type	Unknown/unavailable		
Firm Name **(Int)**	Thomson International, Inc		
Address **(Int)**	11220 S Vineland Rd		
City **(Int)**	Bakersfield		
State/Province **(Int)**	California		
Country **(Int)**	United States		
Postal Code **(Int)**	93307-9489		
Telephone	661-845-1111	**Ext**	**Country Code**
Comment	Firm identified as grower/shipper		

Recall Contact

Official's Name	Jack S. Thomson
Title	President/CEO
Firm Name **(Int)**	Thomson International, Inc.
Address **(Int)**	9852 Buena Vista Blvd
City **(Int)**	Bakersfield
State/Province **(Int)**	California

Country **(Int)**	United States		
Postal Code **(Int)**	93307-9168		
Telephone	**Ext**	**Country Code**	
Facsimile	**Ext**	**Country Code**	
E-mail Address	jacksthomson@aol.com		
Comment			

Public Contact

Official's Name	Kim Earnshaw		
Title	Customer Service		
Firm Name **(Int)**	Thomson International, Inc.		
Address **(Int)**	9852 Buena Vista Blvd		
City **(Int)**	Bakersfield		
State/Province **(Int)**	California		
Country **(Int)**	United States		
Postal Code **(Int)**	93307-9168		
Telephone	**Ext**	**Country Code**	
Facsimile	**Ext**	**Country Code**	
E-mail Address	Kim@thomsoninternational.net		
Comment			

WARNING! Sensitive/critical information. This information is proprietary and confidential. It should not be disclosed to unauthorized parties and should be maintained in a secure environment.

Printed by: **Leonara K Darlington**

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From: FDA_Recalls@fda.hhs.gov
To: ORA HQ CFSAN Class; ORA RES HAFW5
Subject: Recall Classified for 86156 - Thomson International, Inc.
Date: Tuesday, August 25, 2020 9:30:41 AM

Recall Classified for 86156

Comments - 86156

Center Comments :
Class I, CFSAN agrees with Audit Check Modification.
Email Comments :

Recall Date Information - 86156

Firm Awareness :	07/30/2020	**Classification :**	08/25/2020
Recall Initiation :	08/01/2020	**Determination :**	08/25/2020
District Awareness :	07/30/2020	**Recall Completed :**	
HHE Sent :	08/03/2020	**Termination :**	
Distribution Chain Notified :	07/30/2020	**State Press Issued :**	
Alert :	08/03/2020	**Firm Press Issued :**	08/01/2020
Recommendation :	08/04/2020	**FDA Press Issued :**	

Recall Firm Information - 86156

Recalling Firm :
Thomson International, Inc.
9852 Buena Vista Blvd
Bakersfield California 93307-9168
United States
Manufacturing Firm 1:
Thomson International, Inc
Confidential : N
11220 S Vineland Rd
Bakersfield California 93307-9489
United States

Product 1 - 86156

Product Description :
Red onions; Packed under brand names of Thomson Premium, Onions 52, Utah Onions, Harley's Best, Onions 52, Imperial Fresh, TLC Thomson International, El Competidor Thomson Premium packed in 50 and 25 lb.mesh sack, and 2 lb. mesh sack - UPC 33383 60101 3 lb. mesh sack - UPC 33383 60102 TLC International - 40 lbs. carton - no UPC Utah onions 8 lb. mesh sack - Do not currently have UPC; Hatley's Best 8 lb. mesh sack - UPC 0 33383 60004 8 Imperial Fresh in 25 lb. mesh sack, 50, 25, 10 and 5 lb. cartons - 25 lb. Carton (Sysco/Freshpoint - carton UPC 0 00 74865 52351 6 Onions 52 - 2 lbs. mesh sack, UPC 0 33383 60101
Product Public Reason for Recall :
Traceback investigation into an outbreak of Salmonella Newport illnesses found red onions to be a suspect vehicle for the outbreak. After notification from FDA, firm initiated a recall.
Code Information :
ALL CODES- shipped from May 1, 2020 to present Lot Codes: 533-543-553-563-450
Industry-Product Code :
25-TFC25
District Recommended
Classification :
Class I

Center Classification :
Class I
Product Effect. Check Level /
Percent :
A / 100
Product Audit Check Level /
Percent :
A / 100
Recall Number :
F-1272-2020

Product 2 - 86156

Product Description :
Yellow onions; Packed under brand names of Onions 52, Majestic, Hartley's Best, Kroger, Food Lion, Thomson Premium, TLC Thomson International, El competitor, Tender Loving Care, Imperial Fresh. Onions 52: 10 lb. mesh sack - UPC 33383 60004 3 lb. mesh sack - UPC 33383 60002 Hartley's Best: 10 lb. mesh sack - UPC 33383 60004 Majestic: 10 lb. mesh sack - UPC 33383 60004 Kroger: 3 lb. mesh sack - UPC 11110 91682 Food Lion: 3 lb. mesh sack - UPC35826 08630 Thomson Premium: 3 lb. mesh sack - UPC 33383 60004 5 lb. mesh sack - UPC 33383 60031 10 lb. mesh sack - UPC 33383 60004 50 lb. mesh sack - no UPC TLC Thomson International 40 lb. carton - no UPC El Competitor; 50 lb. mesh sack - UPC not received. Tender Loving Care: 50 lb. mesh sack -no UPC Imperial Fresh (Sysco/Freshpoint): UPC's not received 50 lb. carton 10 lb. carton 5 lb. carton 50 lb. mesh sack 25 lb. mesh sack UPC 0 00748616797 0
Product Public Reason for Recall :
Traceback investigation into an outbreak of Salmonella Newport illnesses found red onions to be a suspect vehicle for the outbreak. After notification from FDA, firm initiated a recall.
Code Information :
ALL CODES- shipped from May 1, 2020 to present; Lot coded 511-521-531-541-551-561-571-591-450
Industry-Product Code :
25-TFC25
District Recommended
Classification :
Class I
Center Classification :
Class I
Product Effect. Check Level /
Percent :
A / 100
Product Audit Check Level /
Percent :
A / 100
Recall Number :
F-1273-2020

Product 3 - 86156

Product Description :
White onions; Packed under brand names of Thomson Premium, Onions 52, El competitor. Thomson Premium: 25 lb. mesh sack -No UPC 50 lb. mesh sack -No UPC Onions 52: 8 lb. mesh bag - UPC 8 15222 01019 1 El Competitor 50 lb. mesh sack - No UPC
Product Public Reason for Recall :
Traceback investigation into an outbreak of Salmonella Newport illnesses found red onions to be a suspect vehicle for the outbreak. After notification from FDA, firm initiated a recall.

Code Information :
ALL CODES -shipped from May 1, 2020 to present; Lot Codes: 512-522-532-450
Industry-Product Code :
25-TFC25
District Recommended Classification :
Class I
Center Classification :
Class I
Product Effect. Check Level / Percent :
A / 100
Product Audit Check Level / Percent :
A / 100
Recall Number :
F-1274-2020

Product 4 - 86156

Product Description :
Sweet Yellow onions; Packed under brand names of Thomson Premium, TLC Thomson International. Thomson Premium: 50 lb. mesh sack -No UPC TLC Thomson International; 40 lb. Carton - No UPC
Product Public Reason for Recall :
Traceback investigation into an outbreak of Salmonella Newport illnesses found red onions to be a suspect vehicle for the outbreak. After notification from FDA, firm initiated a recall.
Code Information :
ALL CODES -shipped from May 1, 2020 to present; Lot Codes: 571
Industry-Product Code :
25-TFC25
District Recommended Classification :
Class I
Center Classification :
Class I
Product Effect. Check Level / Percent :
A / 100
Product Audit Check Level / Percent :
A / 100
Recall Number :
F-1275-2020

Recall Event Level Information - 86156

Recall Status :
Ongoing
Firm Recommended Recall Depth :
Consumers/User
Voluntary/Mandated :
FDA Initiated
Voluntary/Mandated Date :
08/01/2020
Effectiveness Check Level / Percent :
A / 100
Audit Check Level / Percent :

A / 100

Audit/Effectiveness Check

Modification :

Audit (b) (4) US accounts was issued 8-3-2020 with instructions to collect distribution lists and forward to HAFW5

Effectiveness Check Information :

Audit Check Information :

Section of Law Violated :

Recall Strategy :

Firm issues press release on August 1, 2020. Direct customers were initially notified by phone, followed with a recall letter sent by e-mail on August 1, 2020. Press advised consumers, restaurants and retailers not to eat, sell or serve onions from Thompson International or products that contain the onions.

Distribution Pattern :

Nationwide and Canada

Quantity Distributed :

(b) (4)

List of Consignees or Comments :

(b) (4) :*(b) (4)*

Number of Foreign Consignees :

(b) (4)

Number of Other Consignees :

Number of VA Consignees :

Number of DOD Consignees :

Number of USDA Consignees :

District Management Approval :

District Management Approval Date :

Class I Termination Recommendation :

Firm Initial Notification :

Combination

Salmonella Newport/Red Onion/Jul 2020

EON # 432687
Incident Summary Report
11/3/20

Authors:

CORE Signals & Surveillance Team: Tyann Blessington, PhD, MS, MPH
CORE Response Team (3): Evelyn Pereira, MPH

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ABSTRACT

On 7/13/20, after receiving notification from PulseNet, FDA CORE Signals began evaluating a cluster of 134 *Salmonella* Newport illnesses from 16 states [CA (3), IA (3), IL (1), MI (13), MN (3), MO (2), MT (11), NC (3), OH (5), OR (42), SD (8), TN (1), UT (28), WA (1), WI (1), WY (9)]. Canadian health authorities reported one clinical isolate matching the genetic sequence of this cluster. At the time of transfer, epidemiologic information was unable to identify a single suspect vehicle. Vehicles of interest included: tomatoes, cilantro, onions, and peppers. The traceback investigation was narrowed to red onions based on the findings of the Canadian outbreak investigation which identified red onions from Thomson International Inc. (Bakersfield, CA) as the likely source of Canadian illnesses. FDA's traceback investigation identified Thomson International Inc. (Bakersfield, CA) as the source of red onions (b) (4) US POS where ill people reported exposure prior to becoming ill. On 8/1/20, Thomson International Inc. (Bakersfield, CA) initiated a recall of red, yellow, white, and sweet yellow onions. A total of 113 samples were collected by FDA during investigations at Thomson International, Inc (Bakersfield, CA) or targeted sampling at distribution centers. Ten samples (4 sediment, 1 scat and 5 ultrafiltration water samples) were reported positive for *Salmonella* but did not match the outbreak strain. The vehicle for this outbreak was confirmed as red onions based on the epidemiologic and traceback evidence. At the conclusion of the CORE Response phase, a total of 1132 cases in 48 states [AK (25), AL (2), AR (2), AZ (39), CA (128), CO (32), CT (2), DE (2), FL (8), GA (11), HI (3), ID (43), IL (54), IN (4), IA (31), KS (3), KY (3), ME (6), MA (2), MD (7), MI (47), MN (19), MO (11), MS (5), MT (72), NC (6), ND (9), NE (10), NH (1), NJ (12), NM (3), NV (14), NY (14), OH (11), OK (1), OR (110), PA (27), RI (3), SC (1), SD (24), TN (7), TX (2), UT (115), VA (10), WA (150), WI (11), WV (3), WY (27)] and 515 Canadian cases in 7 Canadian provinces were associated with this outbreak.

SIGNALS AND SURVEILLANCE ACTIVITIES

On 7/10/20, PulseNet users were notified of a national cluster of *Salmonella* Newport illnesses, that were genetically related to historical almond isolates and a historical Newport cluster. On 7/13/20, CORE Signals and CDC discussed the emerging outbreak and the cluster's relationship to historical isolates. The cluster rapidly expanded and at the time of transfer on 7/21/20, there were 134 cases across 16 states: CA (3), IA (3), IL (1), MI (13), MN (3), MO (2), MT (11), NC (3), OH (5), OR (42), SD (8), TN (1), UT (28), WA (1), WI (1), WY (9). Most illnesses were geographically focused within the central, midwestern, and western states. Isolation dates ranged from 6/20/20 to 7/11/20, and available onset dates (n=42) ranged from 6/19/20 to 7/7/20. The cases ranged in age from 2 to 92 (median = 40) years, and 55% of cases were female. Twenty-four cases were hospitalized, and there were no deaths. At the time of transfer, the outbreak was considered to be ongoing and was expected to expand

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due to a 16-day lag time (the time between illness onset and laboratory confirmation).

The genetic sequences of the cluster isolates for the outbreak cluster 2007MLJJP-1 were considered highly related by 0-4 alleles and 0-6 SNPs. Additionally, Canadian health authorities reported one clinical isolate matching the genetic sequence of this cluster. Of historical note, the isolates for outbreak cluster 2007MLJJP-1 were within five alleles or 11 SNPs of isolates from the outbreak cluster, 1509MLJJP-1, which closed without an identified vehicle. In addition, NCBI's Pathogen Detection Pipeline identified historical clinical isolates from the United Kingdom as well as CA almonds (raw almond samples collected in 2016 and 2017) that were within 14 SNPs from this cluster. The nut samples were collected under a blinded sampling assignment with a contract laboratory and the associated firm and branding information were not available.

CDC hosted States calls on 7/15/20 and 7/20/20 and cases reported multiple common exposures including, fresh produce (tomatoes, cilantro, onions, and leafy greens), eggs, cheese, beef, chicken, and pork. Tree nuts were rarely reported (3/25 cases). State investigators decided to interview a select few existing and new cases with a modified National Hypothesis Generating Questionnaire (NHGQ). The only food items that were significant ($\alpha = 0.05$) when compared to the FoodNet Population Survey were cilantro and leafy greens. Cases across several states reported consuming foods from Mexican-style and sandwich-style restaurants. Nationally, 6 cases reported Subway, 3 reported Jersey Mike's, and 2 reported Jimmy John's. Many state partners reported an increase and/or backlog of *Salmonella* Newport or *Salmonella* isolates pending further characterization in their laboratories.

Eight restaurant and facility subclusters were identified in CA and OR.

- The California Department of Public Health investigated 5 Mexican-style restaurant sub-clusters all located in the Northern CA region and all part of a larger *Salmonella* serogroup C outbreak investigation. The 5 subcluster locations and their subcluster identifications are listed below. At the time of transfer, most illness isolates were pending WGS, therefore it was unknown if these illnesses were related by WGS or epi-linked to the Newport cluster, 2007MLJJP-1. Two 2007MLJJP-1 cluster isolates, CA___M20X01046 and CA___M20X01079, were associated with CA subcluster 1 and 2, respectively. The remaining isolates associated with the CA clusters were not sequenced by the time of transfer. All serogroup C outbreak cases were residents of Northern CA and most were from the San Francisco Bay area. Most cases reported consuming fresh produce as part of their meal or as an ingredient in salsa and pico de gallo. Identified meal dates ranged from 6/16/20 to 7/7/20. State investigators requested the restaurants to

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provide lists of ingredients (including dried spices and seasonings) used to make pico de gallo, salsas, and guacamole. Invoices for produce (including cilantro and tomatoes) were requested for all restaurants. Cilantro and tomatoes were the items of greate
    - (CA-01),
    - (CA-02),
    - (CA-03),
    - (CA-04),
    - (CA-05),

(b) (4)

- Oregon Health Authority investigated 3 subclusters; 2 were associated with restaurants (Mexican-style and Subway) and the 3rd was associated with an assisted living center. The 3 subcluster locations and their subcluster identifications are listed below. Identified meal dates ranged from 6/25/20 to 7/7/20. On 7/17/20, Josephine County Public Health issued a public notice of their investigation for subcluster OR-01. Product samples of cilantro (OR-01), onion (OR-02), and tomato (OR-01, OR-02, and OR-03) were collected from the points-of-service for microbiological analysis. All were negative.
    - (OR-01),
    - (OR-02),

(b) (4)

(b) (4)

    - (OR-03), Subway (various locations)

At the time of transfer, microbiological and epidemiological information were unable to identify a single suspect vehicle. CDC believed the vehicle was likely an FDA-regulated food product; tomatoes, cilantro, onions, and peppers were items of greatest interest. Supplier review and traceback evaluation were needed to identify common suppliers and aid in the evaluation of the vehicle items of interest. CDC was preparing a web-based public notice about this outbreak and investigation at the time of transfer.

This incident was transferred from CORE Signals to CORE Response Team 3 on 7/21/20 based on the following rationale:

1) This was a rapidly expanding multi-state outbreak likely associated with a FDA-regulated product; items of interest included tomatoes, cilantro, onions, and peppers.
2) Response coordination for traceback, sampling, product and firm actions, and communication was needed.

RESPONSE

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Epidemiology

A case was defined as a person with infection with *Salmonella* Newport with an isolate matching by cgMLST within 0-6 alleles and an illness onset on or after 6/15/20.This outbreak included 1132 cases from 48 states [AK (25), AL (2), AR (2), AZ (39), CA (128), CO (32), CT (2), DE (2), FL (8), GA (11), HI (3), ID (43), IL (54), IN (4), IA (31), KS (3), KY (3), ME (6), MA (2), MD (7), MI (47), MN (19), MO (11), MS (5), MT (72), NC (6), ND (9), NE (10), NH (1), NJ (12), NM (3), NV (14), NY (14), OH (11), OK (1), OR (110), PA (27), RI (3), SC (1), SD (24), TN (7), TX (2), UT (115), VA (10), WA (150), WI (11), WV (3), WY (27)]. Isolation dates ranged from 6/20/20 to 9/14/20, while confirmed reported onset dates ranged from 6/19/20 to 9/11/20. Ages ranged from 5 days to 102 years (median 41), and 58% of cases were female. Of the cases with information available, 167/705 (24%) were hospitalized, and there were no reported deaths. All isolates were closely related to each other at 0-6 alleles by cgMLST.

There were early signals for Mexican-style foods. Canada identified clinical cases caused by the same strain and noted red onions as a leading hypothesis in their investigation. Based on Canada's findings and preliminary review of traceback records, red onions were identified as the suspect vehicle.

From 380 returned questionnaires for the US outbreak, 344 (91%) ill people reported consuming onions or meals that likely contained onions. Of which, 66% of cases reported consuming red onions, or meals that likely contained red onions, 62% reported white onions, and 53% yellow onions. Some cases reported eating multiple onion varieties.

CDC closed this investigation as of 10/2/2020 with red onions as the confirmed vehicle of this outbreak.

The Public Health Agency of Canada declared the Canadian outbreak over on 9/25/20. At closeout, there were 515 confirmed cases of *Salmonella* Newport linked to this outbreak in the following provinces: British Columbia (121), Alberta (293), Saskatchewan (35), Manitoba (26), Ontario (14), Quebec (25) and Prince Edward Island (1). Seventy-nine of 419 individuals (79%) with information available were hospitalized. Three people died (deaths not attributed to *Salmonella*). Illnesses occurred between 6/15/20 (onset) to 8/28/20 (specimen collection date).

The CDC linelist and WGS tree are available on EON # 432687.

Traceback

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A regulatory traceback was initiated for four legs at (b) (4) points-of-service (POS) in response to this outbreak of *Salmonella* Newport illnesses. Four traceback legs representing 26 cases were initiated on 07/21/20. Factors used in identifying "best cases" were: more than one case at a single POS with exposures to red onions. Case patients included in the traceback investigation had known meal/exposure dates which ranged from 06/19/20 to 07/15/20. The timeframe of interest for record collection was identified as two weeks at POS for known meal dates and three weeks for onset dates.

Additional Traceback and Traceforward Information

The four legs of traceback were performed on the confirmed vehicle of red onions. Exposures to other colors of onions were identified by CDC and state partners. The California Department of Public Health (CDPH) and the Michigan Department of Agriculture & Rural Development (MDARD) performed traceback of yellow onions for (b) (4) points-of-service.

CDPH traced onions (red and yellow) from (b) (4) points-of service (POS). Thomson brand yellow onions were sourced from Onions 52 (Syracuse, UT) for (b) (4) of the (b) (4) POS. Additional yellow onion suppliers were identified for each of the (b) (4) POS. (b) (4) POS sourced yellow onions from (b) (4) (b) (4) The traceback for these legs was limited by recordkeeping, especially at the level of the suppliers to the points-of-service.

MDARD traced yellow onions from (b) (4) points-of-service. (b) (4) POS received yellow onions that were sourced solely from Thomson International (Bakersfield, CA) via Onions 52. (b) (4) POS sourced onions from (b) (4) including Thomson International (Bakersfield, CA) via Onions 52. (b) (4) POS received onions from (b) (4) but not Thomson International (Bakersfield, CA) or Onions 52 (Syracuse, UT).

Through the recall audit check procedures, traceforward information was obtained describing customer lists that received recalled onions. A traceforward product flow diagram was produced showing Thomson International Inc's direct customers, as well as the supply chains for the four legs of red onion traceback, and the yellow onion tracebacks performed by the CDPH and the MDARD. The POS identified in the traceforward product flow diagram indicate if red and/or yellow onions sourced from Thomson International Inc were known to have been supplied at some time; this does not indicate if the onions were the onions that were consumed by the cases, just known distribution. Additional grocery companies identified in the recall audit check and downstream recalls included: ALDI, Food Lion, Giant Food, Hello Fresh, Imperfect Foods, Kroger, Publix Super Markets, Stop & Shop, Walmart, and WinCo.

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Traceback Conclusion
The traceback investigation identified (b) (4) legs of distribution for red onions served at (b) (4) points-of-service. Thomson International Inc (Bakersfield, CA) was identified as the source of the red onions based on convergence of the legs of traceback. Additional information from traceback investigations performed by CDPH and MDARD support this conclusion

Traceback Limitations
This traceback investigation was limited by the exposure information provided by cases in identified clusters, the size of illness clusters identified, limited supply chain diversity identified, and lack of adequate recordkeeping. Epidemiologic information regarding case exposures was limited when cases were unable to recall the type of onions consumed. The majority of the clusters, nine of ten, were less than four cases per point-of-service. Three of the four legs of red onion traceback were through various Sysco distribution centers and did represent a broader diversity of supply chains.

Records were not available or were incomplete at some points along the distribution chains: (b) (4) did not identify Sysco as a supplier, but later records from Sysco identified it as such; records at Thomson International Inc for field level information were known to be incorrect and information used in this traceback was the best information that the firm could identify.

The traceback summary, timeline and diagrams are available on EON # 432687.

Establishment Inspections and Investigations

Record Requests
On 7/24/20, CORE issued an information request to ORA HAF1E (NWE-DO) for traceback data from Subway Company (b) (4) . The request was fulfilled on 7/30/20. Multiple, but not all, Subway locations identified by ill people were supplied onions from (b) (4) ; (b) (4) However, given that (b) (4) could not explain all the Subway exposures, no follow up was conducted at (b) (4)

On 7/27/20, CORE issued an assignment (eNSpect Assignment #167287) to ORA HAF3W (DAL-DO) for record collection at Sysco (b) (4) . The Sysco locations included in the US traceback investigation received onions from Onions 52 Inc. (Syracuse, UT; FEI #3016800010).

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On 7/28/20, CORE issued an assignment (eNSpect Assignment #167509) to ORA HAF4W (DEN-DO) for record collection at Onions 52 Inc (Syracuse, UT; FEI #3016800010) related to the Canadian traceback investigation. Records were received on 7/29/20 and forwarded to Canadian partners for review. The assignment was closed out on 7/31/20.

On 7/28/20, CORE requested record collection by ORA HAF6W (SEA-DO) from (b) (4)). Records were received on 7/28/20. (b) (4) received onions from (b) (4) suppliers. Due to lack of convergence on these suppliers, follow up was not conducted at these suppliers.

On 8/4/20, CORE issued an assignment (eNSpect #169871) to ORA HAF6E (CHI-DO) for record collection at (b) (4) . This was a supplier of interest for a MI subcluster not supplied by Sysco (b) (4)). Records were received on 8/6/20 and no additional follow up was initiated. The assignment was closed out on 8/12/20.

On 8/10/20, CORE issued an assignment (eNSpect #170684) to ORA HAF6E (CHI-DO) for record collection at (b) (4)). (b) (4) received red onions from (b) (4) suppliers (b) (4)) and (b) (4) which was subsequently supplied to one subcluster. Follow up at the identified suppliers was not initiated.

Targeted Sampling

On 8/19/20, CORE issued an assignment (FACTS# 12061015) to ORA HAF1E (NWE-DO) for product sampling at Sysco (b) (4) Two samples were collected. The assignment was closed out on 8/24/20.

On 8/19/20, CORE issued an assignment (FACTS# 12061168) to ORA HAF1E (NYK-DO) for product sampling at Sysco (b) (4)). Eighteen samples were collected. The assignment was closed out on 8/25/20.

On 8/19/20, CORE issued an assignment (FACTS# 12061016) to ORA HAF3W (DAL-DO) for product sampling at Sysco (b) (4) (b) (4) Two samples were collected.

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On 8/19/20, CORE issued an assignment (FACTS# 12061017) to ORA HAF4W (DEN-DO) for product sampling at Sysco (b) (4) (FEI (b) (4) ; (b) (4) . Twenty-four samples were collected. The assignment was closed out on 8/25/20.

On 8/19/20, CORE issued an assignment (FACTS# 12061018) to ORA HAF6W (SEA-DO) for product sampling at Sysco (b) (4) (FEI (b) (4) Sixteen samples were collected. The assignment was closed out on 8/21/20.

The samples that were collected consisted of red, white or yellow onions subject to recall by Thomson International, Inc. (Bakersfield, CA).

Investigations

CORE issued an assignment (FACTS #12055268) to ORA HAF5W (SAN-DO) for an inspection including record collection and environmental sampling at Thomson International Inc. (Bakersfield, CA; FEI #3004391505) on 8/2/20. The inspection was initiated on 8/3/20 by ORA HAF5W and the California Department of Food and Agriculture. The assignment was closed out on 8/5/20.

CORE issued an assignment (FACTS #12055297) to ORA OHAFO Domestic Produce Safety Branch (ORA PSN) for an investigation and sampling at Thomson International Inc. (Bakersfield, CA; FEI #3004391505) on 8/2/20. On 8/6/20, ORA PSN, California Department of Public Health and the California Department of Food and Agriculture initiated the investigation. Based on traceback records received from Thomson International Inc (Bakersfield, CA), CORE identified (b) (4) (b) (4) in Bakersfield, CA and (b) (4) in Holtville, CA (b) (4) where the implicated lots were harvested. Investigators collected product, soil, water, environmental and sediment samples. A FDA-4056 was not issued for either investigation but a discussion was held with the firm to discuss the exclusion of pests, records management and cleaning and sanitizing procedures. The inspection was closed out on 8/27/20.

CORE issued an assignment (FACTS #12060391) to ORA OHAFO Domestic Produce Safety Branch (ORA PSN) for an investigation and water and environmental sampling at Thomson International Inc. (Bakersfield, CA; FEI #3004391505) growing fields and surrounding area in Holtville, CA on 8/18/20. One implicated lot included in the traceback was harvested from the (b) (4) in Holtville, CA. On 8/20/20, ORA PSN initiated the investigation. Investigators collected soil, water, environmental and sediment samples. A FDA-4056 was not issued. The inspection was closed out on 8/24/20.

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As a follow up to the first investigations, ORA PSN initiated investigations (FACTS # 12068471) at Thomson International Inc. (Bakersfield, CA; FEI #3004391505) fields in Bakersfield, CA and Holtville, CA fields. The investigations were coordinated through CFSAN Office of Compliance and Office of Food Safety.

Laboratory
A total of 113 samples were collected by FDA as part of this outbreak investigation. One hundred three samples were negative. Ten samples were positive for *Salmonella*.

Sysco (b) (4)
ORA Investigators from four ORA HAF Divisions [1E (NYK, NWE), 3W (DAL), 4W (DEN), 6W (SEA)] collected a total of 62 onions samples from (b) (4) Sysco (b) (4) :

(b) (4)

Twenty samples were analyzed at Northeast Food and Feed Laboratory (NFFL). Eighteen samples were analyzed at Pacific Southwest Food and Field Laboratory (PSFFL). Twenty-four samples were analyzed at Denver Laboratory (DENL).

The 62 samples collected from the Sysco (b) (4) were reported negative.

Thomson International Inc. (Bakersfield, CA) Investigations
During the inspection conducted by ORA HAF5W and the California Department of Food and Agriculture at Thomson International Inc. (Bakersfield, CA), three environmental (#1145759, 1145760, 1145761) samples and one scat sample (#1141449) were collected. Samples were analyzed at PSFFL and reported negative for *Salmonella*.

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Investigators collected twenty-two samples during the investigation conducted by ORA PSN at Thomson international Inc. (Bakersfield, CA). Fourteen onion samples (#1145947, 1145948, 1145625-29, 1145955, 1145956, 1146412-1146416), four water samples (#1145623, 1145624, 1145951, 1145953), one scat sample (#1145949) and three sediment samples (#1145950, 1145952, 1145954) were collected. The twenty-two samples were analyzed at NFFL and all were negative for *Salmonella*.

ORA PSN Investigators collected twenty-five samples during the investigation at the Thomson International, Inc (Bakersfield, CA) growing areas in Holtville, CA. Three environmental (#1137802, 1137803, 1137804) and 22 investigational [7 ultra-filtration water (#1146713, 1146714, 1146757, 1146791, 1146793, 1146796, 1146797), 2 grab water (#1146717, 1146753), 1 drag swab (1091981), 8 sediment (#1146712, 1146715, 1146716, 1146754-1146756, 1146792, 1146794), 3 soil/scat (1037805, 1146795, 1091980), onion wrappings (#1091982)] samples were collected. The seven water ultra-filtration samples were analyzed by CFSAN ORS. Eight of the twenty-five samples were analyzed at NFFL and the remaining ten samples were analyzed by PSFFL.

A total of 51 samples were collected during the investigations at Thomson International Inc. at Bakersfield, CA and Holtville, CA. Ten samples were positive for *Salmonella* and were collected from the Imperial Irrigation District areas surrounding the Thomson International Inc. fields in Holtville, CA. A summary of the positive samples and serotypes are included below:

- 4 sediment samples
    - #1146715 (*S*. Newport*; *S*. IIIa 53:z4,z23:-)
    - #1146716 (*S*. Oranienburg**, *S*. Muenchen; IIIa 41:z4,z23:-; IIIa 53:z4,z23:-)
    - #1146754 (*S*. Newport*, *S*. Montevideo)
    - #1146755 (*S*. Montevideo)
- 5 ultrafiltration water samples
    - #1146713 (*S*. Newport*)
    - #1146714 (*S*. Newport*, *S*. Montevideo, *S*. enterica subspecies VI 44:z36[z38]:-)
    - #1146757 (*S*. Newport*, *S*. Montevideo, *S*. Thompson)
    - #1146791 (*S*. Newport*, *S*. Braenderup, S. Montevideo, *S*. Senftenberg, *S*. Thompson, *S*. Wangata)
    - #1146797 (*S*. Anatum, *S*. Taksony, S. Tennessee)
- 1 scat sample
    - #1146795 (*S*. IIIa 41:z4,z23:-)

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* Does not match outbreak strain of *S*. Newport
** WGS unresolved due to abnormal genome size, sequence ran twice

WGS Analysis
A total of the 141 isolates were WGS analyzed from the ten positive samples. One isolate from sample #1146716 had an unresolved WGS analysis due to an abnormal genome size (~5.9 Mb). The remaining 140 isolates were found to belong to possibly 17 different *Salmonella* strains. Although *S*. Newport was isolated from six of the ten positive samples, none of the isolates were genetically related to the outbreak strain.

Of note, isolates from one sediment sample were genetically identical to one another, representing the same strain. It's possible that this strain was the same strain that caused the alfalfa sprout outbreak in 2016 (1601MLJJ6-1).

Additionally, isolates from a different sediment sample were genetically related to each other and likely match clinical isolates from the 2018 sprout outbreak 1801MLJIX-1. Both the 2016 and 2018 sprouts outbreaks identified seed suppliers in or nearby Holtville, CA as firms of interest.

The FDA sample tracker and final WGS report is available on EON # 432687.

Product/Firm Actions/Firm Events
On 7/30/20, Sysco (b) (4) initiated a recall of Imperial Fresh brand red onions imported into Canada from the US and distributed in Western Canada through the following Sysco locations: Victoria, Vancouver, Kelowna, Calgary, Edmonton, Winnipeg and Regina. The onions were supplied by Thomson International, Inc (Bakersfield, CA).

On 7/31/20, Thomson International Inc. ceased operations at their Bakersfield, California facility and agreed to voluntarily recall onions. The recall was initiated on 8/1/20. Red, yellow, white, and sweet yellow onions produced by Thomson International and shipped from 5/1/20 through 8/1/20 were subject to recall.

As a result of the Thomson International Inc (Bakersfield, CA) recall, multiple firms initiated downstream recalls or posted notices on their respective websites including: *(b) (4)*

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(b) (4)

FDA created a majors recall page to track downstream recalls.

COMMUNICATIONS

In the course of the investigation, firm calls were held with Sysco (b) (4)), Thomson International Inc. (Bakersfield, CA) and Onions 52 (Syracuse, UT) to discuss the outbreak, public communication and product actions.

FDA, CDC, PHAC and CFIA held an Industry Call on 7/31/20 to discuss public communications.

Thomson International Inc. (Bakersfield, CA) issued a press release for their recall on 8/1/20.

FDA issued public communications regarding this outbreak on 7/31/20. Subsequent updates were made on 7/31/20, 8/3/20, 8/7/20, 8/11/20, 8/13/20, 8/18/20, 9/1/20, 10/8/20.

CDC issued public communications regarding this outbreak on 7/24/20. Subsequent updates were made on 7/221/20, 7/24/20, 7/31/20, 8/3/20, 8/7/20, 8/18/20, 9/1/20, 10/8/20.

On 8/5/20, USDA FSIS issued a Public Health Alert regarding the recall of RTE meat and poultry products that contained recalled onions.

The Public Health Agency of Canada issued a Public Health Notice regarding this outbreak on 7/24/20. The Public Health notice was further updated on 7/30, 8/2/20, 8/7/20, 8/14/20, 8/21/20, 8/31/20, 9/14/20, 10/1/20.

A Recall Notice related to Sysco (b) (4)) was issued by CFIA on 7/30/20.

CFIA issued a Recall Notice for the Thomson International Inc. (Bakersfield, CA) recall on 8/1/20.

CONCLUSION

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As of 10/5/20, a total of 1132 illnesses were reported from 48 states, including 167 hospitalizations. A traceback investigation identified Thomson International Inc. (Bakersfield, CA) as the source of red onions to ten US POS where ill people reported eating prior to becoming ill. A total of sixty-two product samples were collected from (b) (4) Sysco Distribution Centers. Fifty-one samples were collected from investigations at Thomson International Inc facility and fields in Bakersfield, CA and Holtville, CA were collected. Of the total 113 samples collected, ten samples were reported positive for *Salmonella* but did not match the outbreak strain. Thomson International Inc. Bakersfield, CA) initiated a recall of red, white, yellow and sweet yellow onions on 8/1/20. Based on the epidemiologic and traceback evidence, red onions were confirmed as the vehicle of this *Salmonella* Newport outbreak.

ACKNOWLEDGEMENTS

CORE would like to acknowledge the work of ORA HAF5W, ORA Produce Safety Network, California Department of Public Health, and the California Department of Food and Agriculture for mobilizing and initiating the investigations at Thomson International Inc. quickly which contributed directly to the outbreak investigation. Additionally, we would like to acknowledge the laboratory staff within ORA's Pacific Southwest Food and Feed Laboratory and Northeast Food and Feed Laboratory for analyzing the samples collected during the investigations at Thomson International Inc. Many thanks to the State Partners in Arizona, California, Maryland, Michigan, Minnesota, Montana, North Dakota, Oregon and Wyoming that collected traceback records for the numerous subclusters identified. Your contributions to this outbreak investigation are appreciated.

INCIDENT COORDINATION GROUP

Incident Group List – *Salmonella* Newport/ Red Onion/ Jul 2020

Coordinated Outbreak Response and Evaluation Network

Signals & Surveillance: LCDR Tyann Blessington
Response: Response Team 3

- Lead Coordinator: Evelyn Pereira
- Operations: LCDR Matt Doyle
- Planning: Stranjae' Ivory

Outbreak Evaluation: Marie Armstrong
Communications: Corinne Newhart
Senior Leadership

Office of Regulatory Affairs (ORA)
Human and Animal Food East

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Division I – NYK-DO (New York), NWE-DO (New England)	Kim Langello; Nikki Vaught
Division II – BLT-DO (Baltimore), PHI-DO (Philadelphia), NWJ-DO (New Jersey)	LCDR Valeria Moore, Judith Paterson, William Muszynski
Division III – ATL-DO (Atlanta)	Wilbur Huggins
Division IV – FLA-DO (Florida), SJN-DO (San Juan)	Nelson Venerio, Marianela Aponte Cruz
Division V – CIN-DO (Cincinnati), NOL-DO (New Orleans)	Brenda Zimmer, Lindsay Bertling
Division VI – CHI-DO (Chicago), DET-DO (Detroit)	Joseph Cooper
Human and Animal Food West	
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Division II – KAN-DO (Kansas City)	Erin Dugan
Division III – DAL-DO (Dallas)	Jane Broussard,
Division IV – DEN-DO (Denver)	CDR Holly Miller
Division V – SAN-DO (San Francisco), LOS-DO (Los Angeles)	Hermie Francisco, Nicole Yuen
Division VI – SEA-DO (Seattle)	LCDR Kelsey Volkman
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Division of Domestic Human and Animal Foods Operations	Linda Stewart, Nicole Clausen, Larry Stringer
Produce Safety Network (PSN)	CDR Brittany Nork, Gerald Bromley, Brandi McGrady
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Office of Criminal Investigations	Steven Li
Center for Food Safety and Applied Nutrition (CFSAN)	
Office of Compliance	CFSAN OC RCRT11
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Office of Analytics and Outreach	Yan Luo
Office of Regulatory Science	Rebecca Bell; Hua Wang; Thomas Hammack
Division of Produce Safety	Kurt Nolte
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Office of the Commissioner	
Office of Chief Counsel	Alexandra Jabs
Office of Emergency Operations	Russell Zablan
Centers for Disease Control and Prevention (CDC)	
Division of Foodborne, Waterborne, & Environmental Diseases – Outbreak Response and Prevention Branch (ORPB)	CDR Laura Gieraltowski, Kane Patel, Zachary McCormic, Krystalyn B Martin, Colin A Schwensohn, Kenai McFadden, Lauren Stevenson, CDR Matthew Wise
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State Partners	
Alabama (AL)	Montana (MT)
Alaska (AK)	Nebraska (NE)
Arizona (AZ)	New Hampshire (NH)
Arkansas (AR)	New Jersey (NJ)
California (CA)	New Mexico (NM)
Colorado (CO)	New York (NY)
Connecticut (CT)	Nevada (NV)
Delaware (DE)	North Carolina (NC)
Florida (FL)	North Dakota (ND)
Georgia (GA)	Ohio (OH)
Hawaii (HI)	Oklahoma (OK)
Idaho (ID)	Oregon (OR)
Illinois (IL)	Pennsylvania (PA)
Indiana (IN)	Rhode Island (RI)
Iowa (IA)	South Carolina (SC)
Kansas (KS)	South Dakota (SD)
Kentucky (KY)	Tennessee (TN)
Maine (ME)	Texas (TX)
Maryland (MD)	Utah (UT)
Massachusetts (MA)	Virginia (VA)
Michigan (MI)	Washington (WA)
Minnesota (MN)	West Virginia (WV)
Mississippi (MS)	Wisconsin (WI)
Missouri (MO)	Wyoming (WY)

SUPPORTING DOCUMENTS

1. CDC Line list
2. WGS Tree
3. CORE Sample Spreadsheet
4. Traceback Diagram
5. Traceback Timeline
6. Incident Package
7. Incident Data Form

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Salmonella Newport (2007MLJJP-1)/ Unknown/ Jul 2020

Date(s):

Type of Incident: CORE Signals | Product Centers: CFSAN | Qualifier: Foodborne Illness
Districts Involved: | RRT Involved: | Notification Source: CDC

Description

On 7/10/2020, CDC notified PulseNet users of a national cluster of Salmonella Newport illnesses. The cluster has rapidly expanded and as of 7/21/2020, there are 134 cases across 16 states: CA (3), IA (3), IL (1), MI (13), MN (3), MO (2), MT (11), NC (3), OH (5), OR (42), SD (8), TN (1), UT (28), WA (1), WI (1), WY (9). Most illnesses are geographically focused in the central, midwestern, and western states; however, recently illnesses have been identified in southeast states of NC and TN. Isolation dates range from 6/20/2020 to 7/11/2020 and onset dates (n=42) range from 6/19/2020 to 7/7/2020. The lag time is 16 days and the outbreak is considered ongoing. The cases range in age from two to 92 years, with a median age of 40 years and 55% of cases are female. There have been 24 hospitalizations and no deaths. Seven of 68 cases have self-identified as having Hispanic/Latino ethnicity.

Isolates from all cases are highly related to each other and are within 0-4 alleles and 0-6 SNPs. Additionally, Canada health authorities report one clinical isolate matching the genetic sequence of this cluster. This cluster is related by five alleles or 11 SNPs to isolates from the historical cluster 1509MLJJP-1, which closed without an identified vehicle. NCBI's Pathogen Detection Pipeline identified historical clinical isolates from the United Kingdom and CA almond isolates (raw almond samples collected in 2016 and 2017) are related within 14 SNPs from this cluster. The nut samples were collected under a blinded sampling assignment with a contract laboratory.

CDC hosted States Calls on 7/15 and 7/20 and cases reported multiple common exposures including, fresh produce (tomatoes, cilantro, onions, and leafy greens), eggs, cheese, beef, chicken, and pork. Tree nuts were rarely reported (three of 25 cases). State investigators decided to interview a select few existing and new cases with a modified National Hypothesis Generating Questionnaire (NHGQ). The only food items that were significant (a =0.05) when compared to the FoodNet Population Survey were cilantro and leafy greens. Cases across several states reported consuming foods from Mexican-style and sandwich-style restaurants. Nationally, 6 cases reported Subway, 3 reported Jersey Mike's, and two reported Jimmy John's.

Eight restaurant and facility subclusters have been identified in CA and OR.
The California Department of Public Health is investigating five Mexican-style restaurant sub-clusters all in the Northern CA region and all part of a larger Salmonella serogroup C outbreak investigation. This investigation involves 38 cases and 35 cases are pending WGS sequencing (so at this time, it is unknown if these are related by WGS or epi-linked to the larger Newport cluster 2007MLJJP-1). All CA cases in this cluster are from northern CA and most are in the San Francisco Bay area. An additional 10 Salmonella illnesses from Central and Southern California have not been added to this cluster. Most cases reported consuming fresh produce as part of their meal or as an ingredient in salsa and pico de gallo. State investigators have requested the restaurants provide lists of ingredients (including dried spices and seasonings) used to make pico de gallo, salsas, and guacamole. Invoices for produce (including cilantro and tomatoes) have been requested for all restaurants. Cilantro and tomatoes are items of greatest interest for their state investigation.
Oregon Health Authority is investigating 3 sub-clusters; 2 are associated with restaurants (Mexican-style and Subway) and the 3th is associated with an assisted living center.

Sub-clusters identified in the Salmonella Newport (2007MLJJP-1) investigation.
(b) (4)

(b) (4)

No single suspect vehicle has been identified; however, CDC believes the vehicle is likely an FDA-regulated food product and may possibly be tomatoes, cilantro, onions, or peppers. Supplier review and traceback efforts may be able to aid the investigation by identifying common suppliers and narrowing down the items of interest.

CDC will be issuing an investigational notice about this investigation.

On Tuesday, 7/21/2020, CORE Signals transferred this incident to CORE Response Team 3 based on the following rationale:
1) This is a rapidly expanding multi-state outbreak likely associated with a FDA-regulated product; items of greatest interest include tomatoes, cilantro, onions, or peppers.
2) Response coordination for traceback, sampling, product and firm actions, and communication is needed

Surveillance Information / Epidemiology					
Pathogen/Contaminant:	Biological - Bacteria / Salmonella Newport	Serotype:			
Total Cases:	134	**Confirmed:**		**Hospitalized:**	24	**Deaths:**	0
Location/Number of Cases:	CA (3), IA (3), IL (1), MI (13), MN (3), MO (2), MT (11), NC (3), OH (5), OR (42), SD (8), TN (1), UT (28), WA (1), WI (1), WY (9)		
Age Range:	2-92	% Female:	55
Median Age:	40	Animal/Human:	
Date of First Exposure:		Date of Last Exposure:	
Date of First Onset:	06/19/2020	Date of Last Onset:	07/07/2020
Date of First Isolation:	06/20/2020	Date of Last Isolation:	07/11/2020
PFGE Pattern ID:		PulseNet Cluster ID:	2007MLJJP-1
PFGE Pattern Frequency:		Serotype Frequency:	
MLVA pattern/Frequency:		Historical Pattern Information:	
Complaint #	**Complaint Details**		
Pet Food Reports?		MedWatch Reports?	

Vehicle / Product	
Product Category:	
Product Name:	Unknown
Product Description:	
Food Safety Code:	
Vehicle Status:	
Product Actions:	
Product Origin:	

Laboratory Information							
Total Number of Samples:		Number of Positive Samples:		Number of Pending/CRO Samples:		Number of Negative Samples:	

Investigations / Inspections

Traceback Investigations

Communications	
FDA Communication Dates:	
Firm Press Release Dates:	
Release Dates - Other Sources:	

Communications	
Situation Report Dates:	

Other Information	
Signals Evaluation:	
Signals Evaluation Description:	
Response Start Date:	07/21/2020
Response End Date:	
FDA End Date:	
Post-Response Activity:	
Post-Response Activities Description:	

Salmonella Newport/Red Onion/ Jul 2020

Date(s):

Type of Incident: CORE Signals Product Centers: CFSAN Qualifier: Foodborne Illness
Districts Involved: LOS-DO, SAN-DO RRT Involved: Notification Source: CDC

Description

On 7/13/20, after receiving notification from PulseNet, FDA CORE Signals began evaluating a cluster of 134 Salmonella Newport illnesses from 16 states [CA (3), IA (3), IL (1), MI (13), MN (3), MO (2), MT (11), NC (3), OH (5), OR (42), SD (8), TN (1), UT (28), WA (1), WI (1), WY (9)]. Canadian health authorities reported one clinical isolate matching the genetic sequence of this cluster. At the time of transfer, epidemiologic information was unable to identify a single suspect vehicle. Vehicles of interest included: tomatoes, cilantro, onions, and peppers. The traceback investigation was narrowed to red onions based on the findings of the Canadian outbreak investigation which identified red onions from Thomson International Inc. (Bakersfield, CA) as the likely source of Canadian illnesses. FDA's traceback investigation identified Thomson International Inc. (Bakersfield, CA) as the source of red onions (b) (4) US POS where ill people reported exposure prior to becoming ill. On 8/1/20, Thomson International Inc. (Bakersfield, CA) initiated a recall of red, yellow, white, and sweet yellow onions produced by Thomson International. A total of 113 samples were collected by FDA during investigations at Thomson International, Inc (Bakersfield, CA) or targeted sampling at distribution centers. Ten samples (4 sediment, 1 scat and 5 ultrafiltration water samples) were reported positive for Salmonella but did not match the outbreak strain. The vehicle for this outbreak was confirmed as red onions based on the epidemiologic and traceback evidence. At the conclusion of the CORE Response phase, a total of 1132 cases in 48 states [AK (25), AL (2), AR (2), AZ (39), CA (128), CO (32), CT (2), DE (2), FL (8), GA (11), HI (3), ID (43), IL (54), IN (4), IA (31), KS (3), KY (3), ME (6), MA (2), MD (7), MI (47), MN (19), MO (11), MS (5), MT (72), NC (6), ND (9), NE (10), NH (1), NJ (12), NM (3), NV (14), NY (14), OH (11), OK (1), OR (110), PA (27), RI (3), SC (1), SD (24), TN (7), TX (2), UT (115), VA (10), WA (150), WI (11), WV (3), WY (27)] were associated with this outbreak.

Surveillance Information / Epidemiology

Pathogen/Contaminant:	Biological - Bacteria / Salmonella Newport		Serotype:		
Total Cases:	1132	**Confirmed:**	**Hospitalized:**	167	**Deaths:** 0
Location/Number of Cases:	AK (25), AL (2), AR (2), AZ (39), CA (128), CO (32), CT (2), DE (2), FL (8), GA (11), HI (3), ID (43), IL (54), IN (4), IA (31), KS (3), KY (3), ME (6), MA (2), MD (7), MI (47), MN (19), MO (11), MS (5), MT (72), NC (6), ND (9), NE (10), NH (1), NJ (12), NM (3), NV (14), NY (14), OH (11), OK (1), OR (110), PA (27), RI (3), SC (1), SD (24), TN (7), TX (2), UT (115), VA (10), WA (150), WI (11), WV (3), WY (27)				
Age Range:	5 days -102		% Female:	58	
Median Age:	41		Animal/Human:		
Date of First Exposure:			Date of Last Exposure:		
Date of First Onset:	06/19/2020		Date of Last Onset:	09/11/2020	
Date of First Isolation:	06/20/2020		Date of Last Isolation:	09/14/2020	
PFGE Pattern ID:			PulseNet Cluster ID:	2007MLJJP-1	
PFGE Pattern Frequency:	Common		Serotype Frequency:	Common	
MLVA pattern/Frequency:			Historical Pattern Information:		
Complaint #	**Complaint Details**				
Pet Food Reports?			MedWatch Reports?		

Vehicle / Product

Product Category:	Produce
Product Name:	red onion
Product Description:	red onion
Food Safety Code:	
Vehicle Status:	Lab Confirmed, Epi Confirmed, Traceback Confirmed

Vehicle / Product	
Product Actions:	Recalls
Product Origin:	

Laboratory Information											
Total Number of Samples:	113	Number of Positive Samples:	10	Number of Pending/CRO Samples:	0	Number of Negative Samples:					

Positive Sample Number	Date of Collection	Sample Source	Sample Type	Sample Collected By	Sample Analyzed By
1146754	08/21/2020	Soil/sediment;	Environmental	ORA PSN	NFFL
Laboratory Conclusion		Sample Description			
S. Newport, S. Montevideo; Does not match the outbreak strain		This is a sediment sample			

Positive Sample Number	Date of Collection	Sample Source	Sample Type	Sample Collected By	Sample Analyzed By
1146755	08/21/2020	Soil/sediment;	Environmental	ORA PSN	NFFL
Laboratory Conclusion		Sample Description			
S. Montevideo; Does not match the outbreak strain		This is a sediment sample			

Positive Sample Number	Date of Collection	Sample Source	Sample Type	Sample Collected By	Sample Analyzed By
1146715	08/21/2020	Soil/sediment;	Environmental	ORA PSN	NFFL
Laboratory Conclusion		Sample Description			
S. Newport; S. IIIa 53:z4,z23:-; Does not match the outbreak strain		This is a soil/sediment sample.			

Positive Sample Number	Date of Collection	Sample Source	Sample Type	Sample Collected By	Sample Analyzed By
1146716	08/21/2020	Soil/sediment;	Environmental	ORA PSN	NFFL
Laboratory Conclusion		Sample Description			
S. Oranienburg, S. Muenchen; IIIa 41:z4, z23:-; IIIa 53:z4,z23:-; Does not match the outbreak strain		This is a soil/sediment sample			

Positive Sample Number	Date of Collection	Sample Source	Sample Type	Sample Collected By	Sample Analyzed By
1146795	08/24/2020	scat/ bird dropping;	Environmental	ORA PSN	NFFL
Laboratory Conclusion		Sample Description			
S. IIIa 41:z4,z23:-; Does not match the outbreak strain		This is a sample of scat/bird dropping material.			

Positive Sample Number	Date of Collection	Sample Source	Sample Type	Sample Collected By	Sample Analyzed By
1146713	08/20/2020	Dead End Ultrafiltration	Environmental	ORA PSN	CFSAN ORS
Laboratory Conclusion		Sample Description			
S. Newport; Does not match the outbreak strain		This sample includes a Hemodialyzer water filter			

Positive Sample Number	Date of Collection	Sample Source	Sample Type	Sample Collected By	Sample Analyzed By
1146714	08/20/2020	Dead End Ultrafiltration	Environmental	ORA PSN	CFSAN ORS
Laboratory Conclusion		Sample Description			

S. Newport*, S. Montevideo, S. enterica subspecies VI 44:z36[z38]:-; Does not match the outbreak strain	This sample consists of a hemodialyzer water filter

Positive Sample Number	Date of Collection	Sample Source	Sample Type	Sample Collected By	Sample Analyzed By
1146757	08/24/2020	Dead End Ultrafiltration	Environmental	ORA PSN	CFSAN ORS

Laboratory Conclusion	Sample Description
S. Newport, S. Montevideo, S. Thompson; Does not match the outbreak strain	This sample is a water filter sample collected using a Hemodialyzer REXEED 25S.

Positive Sample Number	Date of Collection	Sample Source	Sample Type	Sample Collected By	Sample Analyzed By
1146791	08/24/2020	Dead End Ultrafiltration	Environmental	ORA PSN	CFSAN ORS

Laboratory Conclusion	Sample Description
S. Newport, S. Braenderup, S. Montevideo, S. Senftenberg, S. Thompson, S. Wangata; Does not match the outbreak strain	This water filter sample was collected using a Hemodialyzer REXEED 25S

Positive Sample Number	Date of Collection	Sample Source	Sample Type	Sample Collected By	Sample Analyzed By
1146797	08/24/2020	Dead End Ultrafiltration	Environmental	ORA PSN	CFSAN ORS

Laboratory Conclusion	Sample Description
S. Anatum, S. Taksony, S. Tennessee; Does not match the outbreak strain	This water filter sample was collected using a Hemodialyzer REXEED - 25S

Investigations / Inspections

Firm Name	City	State	Country	FEI	Type
Thomson International, Inc	Bakersfield	CA		3004391505	Grower
FACTS No	Start Date	End Date	483	Activity	
12055268	08/03/2020	08/05/2020	No	investigation	

Firm Name	City	State	Country	FEI	Type
Thomson International, Inc	Bakersfield	CA		3004391505	Grower
FACTS No	Start Date	End Date	483	Activity	
12055297	08/06/2020	08/27/2020	No	investigation	

Firm Name	City	State	Country	FEI	Type
Thomson International, Inc	Bakersfield	CA		3004391505	Grower
FACTS No	Start Date	End Date	483	Activity	
12060391	08/18/2020	08/24/2020	No	investigation	

Traceback Investigations

Product Traced:	red onion	Traceback Completed By:	FDA
# of Traceback Legs:	4	Traceback Convergence Identified?	Yes
Identified Firm Name:	Thomson International Inc.		
Traceback Investigations Description:			

Communications

FDA Communication Dates:	7/31/2020, 8/3/2020, 8/7/2020, 8/11/2020, 8/13/2020, 8/18/2020, 9/1/2020, 10/8/2020

Communications	
Firm Press Release Dates:	8/1/2020
Release Dates - Other Sources:	
Situation Report Dates:	

Communication Type	Communication Date	Communication Details
FDA Communications	07/31/2020	

Communication Link
https://www.fda.gov/food/outbreaks-foodborne-illness/outbreak-investigation-salmonella-newport-red-onions-july-2020

Communication Type	Communication Date	Communication Details
Firm Press Release	08/01/2020	

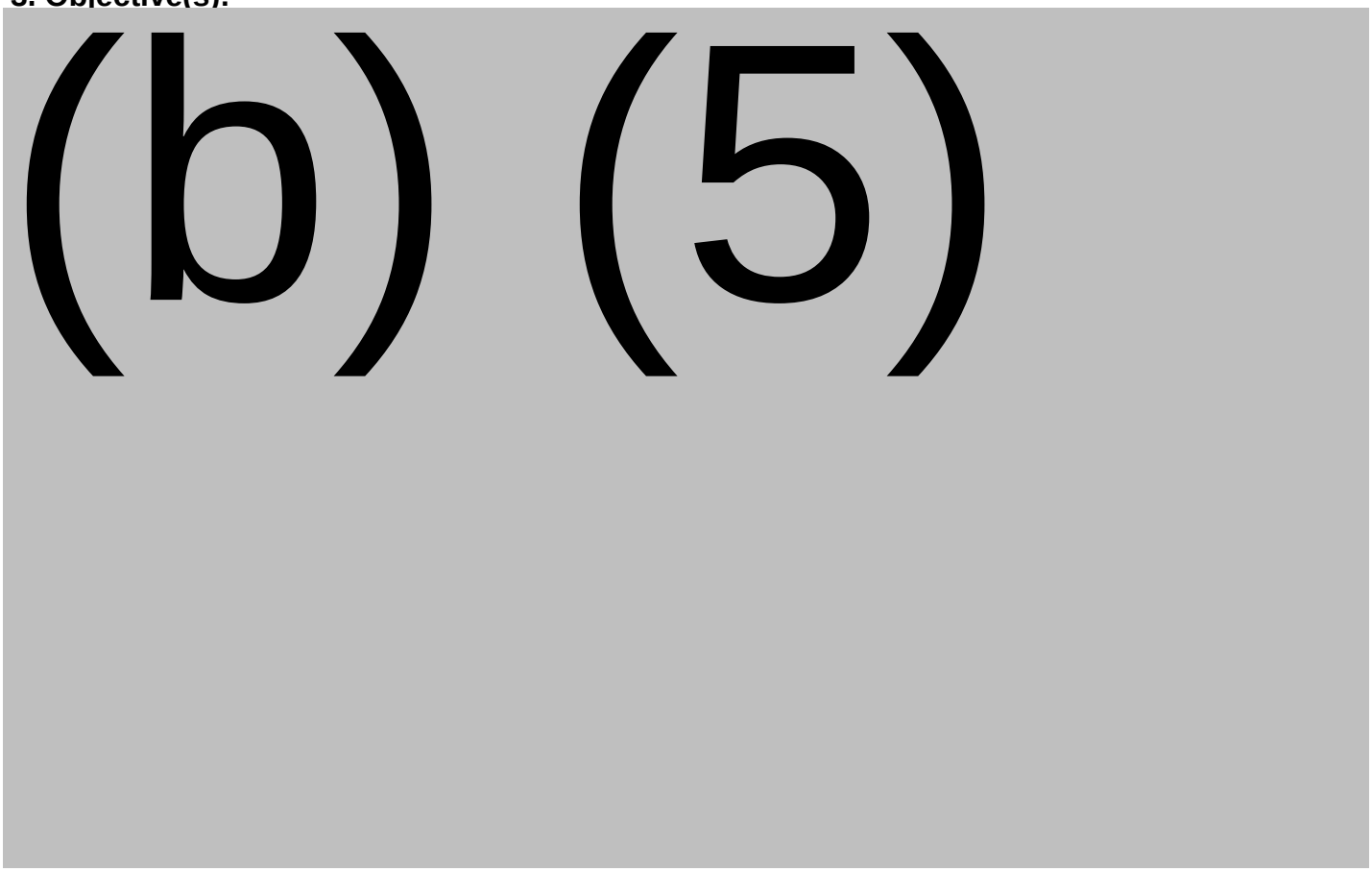
Communication Link
https://www.fda.gov/safety/recalls-market-withdrawals-safety-alerts/thomson-international-inc-conducts-voluntary-recall-red-yellow-white-and-sweet-yellow-onions-because

Other Information	
Signals Evaluation:	
Signals Evaluation Description:	
Response Start Date:	07/21/2020
Response End Date:	
FDA End Date:	
Post-Response Activity:	
Post-Response Activities Description:	

INCIDENT OBJECTIVES (ICS 202), Adapted for FDA

1. Incident Name: *Salmonella* Newport/Red Onion/Jul 2020	2. Operational Period: Date From: 9/11/20 Date To: 9/18/20 Time From: 1700EDT Time To: 1700EDT

3. Objective(s):



4. Operational Period Command Emphasis:

1. Incident Name: *Salmonella* Newport/Red Onion/Jul 2020	2. Operational Period: Date From: 9/11/20 Time From: 1700EDT Date To: 9/18/20 Time To: 1700EDT

General Situational Awareness

On 7/10/2020, CDC notified PulseNet users of a national cluster of *Salmonella* Newport illnesses. The cluster has rapidly expanded and as of 7/23/2020, there are 242 cases across 33 states: AK, AZ, CA, IA, ID, IL, IN, MI, MN, MO, MT, NC, ND, NE, NY, OH, OR, SD, TN, UT, VA, WA, WI, WY. Isolation dates range from 6/20/2020 to 7/11/2020 and onset dates range from 6/19/2020 to 7/7/2020. The cases range in age from two to 92 years, with a median age of 40 years and 55% of cases are female. There have been 29 hospitalizations and no deaths. Isolates from all cases are highly related to each other and are within 0-4 alleles and 0-6 SNPs. Additionally, as of 7/23/20, Canada health authorities report six clinical isolates match the genetic sequence of this cluster and red onions are their leading suspect vehicle. NCBI's Pathogen Detection Pipeline identified historical clinical isolates from the United Kingdom and CA almond isolates (raw almond samples collected in 2016 and 2017) are related within 14 SNPs from this cluster. Cases across several states reported consuming foods from Mexican-style and sandwich-style restaurants including Subway. No single suspect vehicle has been identified; however, based on reported food exposures, vehicles of interest include tomatoes, cilantro, onions, or peppers. CDC issued an Investigation Notice regarding this incident on 7/21/20. CDC is not recommending that consumers avoid any particular food at this time.

Operational Period 1

On 7/24/20, CORE issued an assignment to ORA HAF1E (NWE-DO) for traceback data from Subway Company *(b) (4)*). The requested documents were received on 7/30/20. CDC issued a case count update and the Public Health Agency of Canada issued a Public Health Notice regarding this outbreak on 7/24/20. On 7/27/20, CORE issued an assignment (eNSpect Assignment #167287) to ORA HAF3W (DAL-DO) for record collection at Sysco (b) (4) Related records were received on 7/29-7/30/20. CORE issued an assignment (eNSpect Assignment #167509) to ORA HAF4W (DEN-DO) for record collection at Onions 52 Inc (Syracuse, UT) related to the Canadian traceback investigation. Records were received on 7/29/20. Based on preliminary record review, a majority of Sysco locations included in the US traceback investigation received onions from Onions 52. On 7/28/20, CORE requested record collection by ORA HAF6W (SEA-DO) from *(b) (4)* *(b) (4)* the requested documents were received on 7/28/20. A firm call was held with Sysco (b) (4) to discuss the outbreak, public communication and product actions. A firm call with Thomson International Inc. (Bakersfield, CA) and Onions 52 (Syracuse, UT) was held on 7/30/20 to discuss the outbreak, public communication and product actions. Public Health Agency of Canada and the Canadian Food Inspection Agency issued Public Health Notice and recall notice to the outbreak and Sysco (b) (4) recall on 7/30/20. As of 7/30/20, FDA and CDC declared red onions as the suspect vehicle for this outbreak. On 7/31/20, CDC reported 508 cases and PHAC reported 114 cases. Additionally, an Industry call was held to inform the industry of public communications.

Operational Period 2

On 7/31/20, FDA and CDC issued web posts regarding this outbreak naming Thomson International Inc (Bakersfield, CA) as the likely source. Thomson International Inc. initiated their recall and issued a press release on 8/1/20. Red, yellow, white, and sweet yellow onions produced by Thomson International and shipped from 5/1/20 through 8/1/20 were subject to recall. The Canadian Food Inspection Agency issued a recall notice for the Thomson International Inc. recall on 8/1/20. The Public Health Agency of Canada issued an updated Public Health Notice on 8/2/20. CORE issued an assignment (FACTS #12055268) to ORA HAF5W for an inspection including record collection and product and environmental sampling at Thomson International and an assignment (FACTS #12055297) to ORA OHAFO Domestic Produce Safety Branch for a root cause investigation, farm investigation and water sampling at Thomson International Inc. on 8/2/20. FDA and CDC issued updated web posts to include information about the Thomson International Inc recall on 8/3/20. On 8/3/20, FDA provided written responses to (b) (4) regarding traceback investigation questions. ORA HAF5W and the California Department of Food and Agriculture (CDFA) began the inspection at Thomson International on 8/3/20. In total, ORA HAF5W collected three environmental (#1145759, 1145760, 1145761), and one scat sample (#1141449). Sample #1145759 and #1145760 were reported negative on 8/6/20 and 8/7/20 respectively. ORA HAF5W completed their investigation and ORA PSN, ORA HAF5W, California Department of Public Health and the California Department of Food and Agriculture began a root cause investigation at Thomson International Inc. on 8/6/20. Two product samples (#1145947, 1145948) of red and white onions, respectively, were collected. On 8/4/20, CORE issued an assignment (eNSpect #169871) to ORA HAF6E (CHI-DO) for record collection at (b) (4) . On 8/5/20, USDA FSIS issued a Public Health Alert regarding the recall of RTE meat and poultry products that contained recalled onions. As a result of the Thomson International Inc (Bakersfield, CA) recall, multiple firms have initiated downstream recalls including: Giant Eagle (Pittsburgh, PA), Taylor Farms (Dallas, TX), Walmart (Bentonville, AR), Food Lion (Salisbury, NC), Publix Super Markets (Lakeland, FL) and The Kroger Co. (Cincinnati, OH). As of 8/7/20, CDC reports 701 illnesses in 46 states.

Operational Period 3

On 8/7/20, FDA and CDC issued updated web posts to include a case count update and downstream recalls. On 8/7/20, Office of Emergency Management provided a map of the Thomson International Inc. (Bakersfield, CA) field locations. On 8/8/2020, ORA PSN collected two water samples (#1145623, 1145624), one sediment sample (#1145950) and one scat sample (#1145949) from Thomson International Inc. On 8/10/20, ORA PSN collected seven onion samples (#1145625-29, 1145955, 1145956), two water samples (#1145951, 1145953), and two sediment samples (#1145952, 1145954). Samples #1145760, 1141449, 1145761, 1145947, 1145948, #1145949 and #1145950 were negative for *Salmonella*. CORE issued an assignment (eNSpect #170684) to ORA HAF6E (CHI-DO) for record collection at (b) (4) on 8/10/20. On 8/11/20 and 8/13/20, FDA issued an updated web post to include downstream recalls. As a result of the Thomson International Inc (Bakersfield, CA) recall, The Kroger Co. & subsidiaries [Smith's Food & Drug, Fry's Food Stores, Fred Meyer Stores, Kroger Delta Division, Kroger Mid Atlantic] (Cincinnati, OH), Progressive Produce LLC (La Mirada, CA), and Spokane Produce (Spokane, WA) have initiated recalls. On 8/13/20, eleven samples (#1145951-1145956, 1145625-1145629) were reported negative. Based on epidemiologic and traceback evidence, red onions have been confirmed as the vehicle for this outbreak. As of 8/14/20, CDC reports 850 illnesses in 47 states.

Operational Period 4

On 8/13/20, FDA issued an updated web post to include downstream recalls. On 8/14/20, CFIA issued an updated Recall Notice to included additional downstream recalls. On 8/18/20, FDA and CDC issued updated web posts to include a case count update. On 8/18/20, CORE issued an assignment (FACTS# 12060391) to ORA PSN for an investigation at Thomson International Inc. (Bakersfield, CA) growing fields in Holtville, CA. On 8/20/20, ORA PSN initiated the investigation. To date, three environmental (#1137802, 1137803, 1137804) and 22 investigational [7 ultra-filtration water (#1146713, 1146714, 1146757, 1146791, 1146793, 1146796, 1146797), 2 water grab samples (#1146717, 1146753), 1 drag swab (1091981), 8 sediment (#1146712, 1146715, 1146716, 1146754-1146756, 1146792, 1146794), 3 soil/scat (1037805, 1146795, 1091980), onion wrappings (#1091982)] samples have been collected as part of the Holtville investigation. To date, eight of these samples (1091980-1091982, 1146712, 1137802, 1146717, 1146753, 1146756) are negative; four soil/sediment samples (#1146715, 1146716, 1146754, 1146755) are presumptive positive; thirteen samples are pending. On 8/17/20, HAF5W (SAN) collected five product samples (#1146412-1146416) from Thomson International Inc. (Bakersfield, CA); these samples were reported negative. From 8/19/20 and 8/20/20, CORE issued five assignments (FACTS# 12061015-12061018, 12061168) to four ORA HAF Divisions [1E (NYK, NWE), 3W (DAL), 4W (DEN), 6W (SEA)] for product sampling at (b) (4) Sysco Distribution Centers [Sysco *(b) (4)* , Sysco *(b) (4)* *(b) (4)* Sysco *(b) (4)* , Sysco *(b) (4)* and Sysco *(b) (4)*].To date, a total of 32 product samples [NWE (2), DAL (2), DEN (12), SEA (16)] have been collected as a result of these assignments. On 8/24/20, ORA ORS reported that seven product samples (#1146556-11446562) collected from Sysco (b) (4)), two samples (#1137387-1137388) collected from Sysco (b) (4) of (b) (4) and sixteen samples (1127080, 1141377-1141386, 1146603-1146607) collected Sysco (b) (4) were negative. As a result, twenty-five of these 32 samples are negative with 7 samples pending. As of 8/25/20, CDC reports 993 illnesses in 47 states.

Operational Period 5

From 8/24/20 to 8/25/20, ORA HAF4W (DEN) collected twelve product samples (#1146570-1146575, 1146576-1146581) from Sysco (b) (4) On 8/25/20, HAF1E (NYK) collected 18 product samples (1137048-1137056, 1137944-1137952) from Sysco (b) (4) From 8/25/20 to 8/31/20, ORA ORS reported that two product samples (# 1134051, 1134052), collected from Sysco (b) (4) seventeen product samples (#1146562-1146567, 1146570-1146581), collected from Sysco (b) (4) three product samples (#1137946, 1137054- 1137055), collected from Sysco (b) (4) and five samples (#1146794, 1146792, 1137803-1137805), collected during the investigation at Thomson International Inc. (Bakersfield, CA) growing fields in Holtville, CA, were negative for *Salmonella*. On 8/28/20, four sediment samples (#1146715, 1146716, 1146754-1146755), collected during the investigation at Thomson International Inc. (Bakersfield, CA) growing fields in Holtville, CA, were confirmed positive for *Salmonella*. One scat sample (#1146795) was reported as CRO. On 8/27/20, CFSAN ORS reported that two ultrafiltration water samples (#1146713-1146714), collected by ORA PSN during the investigation at Thomson International Inc. (Bakersfield, CA) growing fields in Holtville, CA, were CRO; on 8/31/20, the samples were confirmed positive for *Salmonella*. In summary, a total of 113 samples have been collected in response to this outbreak: Six (4 sediment; 2 ultrafiltration water) samples are positive, 1 CRO (scat), 86 samples are negative, 20 (15 product; 5 ultrafiltration water) samples are pending. On 8/24/20, the investigation at Thomson International, Inc. in Holtville, CA was closed out and on 8/27/20, the investigation a Thomson International, Inc. in Bakersfield, CA was closed out. As of 9/1/20, CDC reports 1,023 illnesses in 47 states.

Operational Period 6

On 9/2/20, ORA ORS reported that fourteen product samples (#1137944, 1137945, 1137947-1137952, 1137049-1137053, 1137056) were negative for Salmonella. One product sample (#1137048) was reported as CRO but on 9/8/20, the sample was reported negative. Additional analysis of two environmental samples (#1146754, 1146755), previously reported as positive for Salmonella but did not match the outbreak strain by WGS, identified additional potential isolates. Identification, serotyping and WGS are pending. On 9/4/20, ORA ORS reported that one scat sample (#1146795) was confirmed positive for Salmonella; Serotyping and WGS pending. On 9/8/20, CFSAN OAO reported that two Salmonella positive ultrafiltration water samples (#1146713, 1146714) did not match the outbreak strain by WGS. On 9/8/20, three ultrafiltration water samples (#1146757, 1146791 1146797) were confirmed positive for Salmonella. Two samples (#1146793, 1146796) were negative. Serotyping and WGS are pending. In summary, as of 9/11/20 a total of 113 samples have been collected and analyzed for this investigation. Ten samples are positive for Salmonella. WGS for six of the samples (4 sediment, 2 ultrafiltration water) show that the isolates do not match the outbreak strain. WGS is pending for four samples (1 scat, 3 ultrafiltration water). As of 9/11/20, CDC reports 1,095 illnesses in 48 states.

1. Incident Name: *Salmonella* Newport/Red Onion/Jul 2020	2. Operational Period: Date From: 9/11/20 Date To: 9/18/20 Time From: 1700EDT Time To: 1700EDT

6. Incident Action Plan (the items checked below are included in this Incident Action Plan)**:**

☐ ICS 203	☐ Map/Chart	Other Attachments:
☐ ICS 204	☐ Weather Forecast/Tides/Currents	☐ _____
☐ ICS 205		☐ _____
☐ ICS 206		☐ _____
☐ ICS 208		☐ _____

7. Prepared by: Name: Stranjae' Ivory Position/Title: Planning Chief Signature: *Stranjae' Ivory*

8. Approved by Incident Commander: Name: Evelyn Pereira Signature: *Evelyn Pereira*

ICS 202	IAP Page	Date/Time: 11 September 2020 1436

Updated by FDA 2/2011

Salmonella Newport Cluster 2007MLJJP-1

July 24, 2020

Information for internal use only; not for distribution. Data are preliminary and subject to change

Cases of *Salmonella*Newport in cluster 2007MLJJP-1 as of July 24, 2020

State	No. of cases
Alaska	6
Arizona	13
California	10
Delware	1
Florida	1
Iowa	10
Idaho	5
Illinois	9
Indiana	1
Kentucky	1
Maine	2
Michigan	15
Minnesota	7
Missouri	3
Montana	11
North Carolina	3
North Dakota	3
Nebraska	5
Nevada	2
New York	1
Ohio	6
Oregon	51
South Dakota	13
Tennessee	2
Texas	1
Utah	43
Virginia	3
Washington	1
Wisconsin	2
Wyoming	11
Total	**242**

- Case definition:
  - Infection with *Salmonella*Newport and
  - with isolate matching by cgMLST within 0-4 alleles
  - with illness onset during 6/19/2020–present
- 242 cases from 30 states
- Isolation dates:6/20/2020 –7/15/2020
- Reported onset dates (n=118): 6/19/2020 –7/11/2020

Information for internal use only; not for distribution. Data are preliminary and subject to change

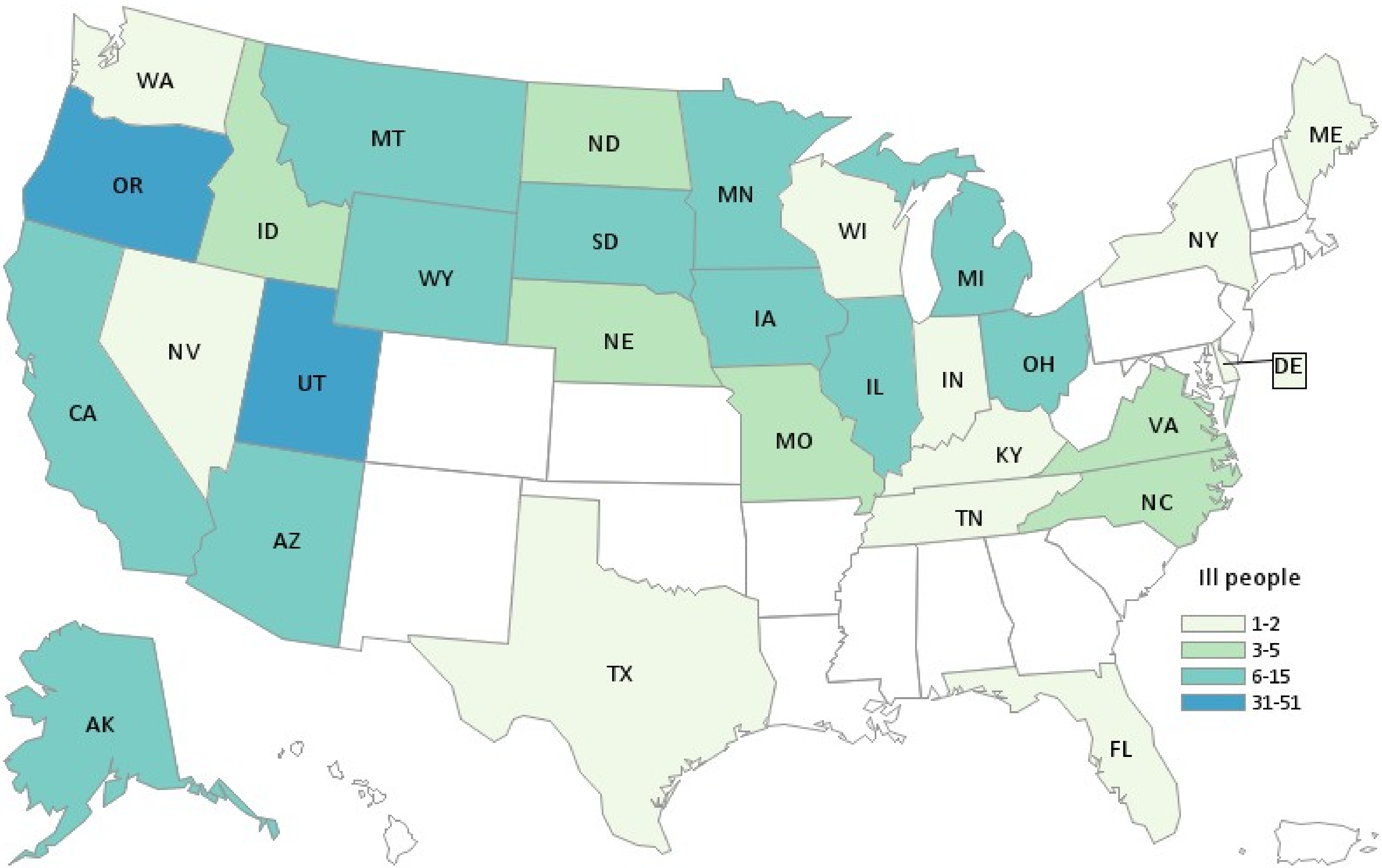
Table 2. Patient demographics in *Salmonella*Newport cluster 2007MLJJP-1, as of July 24, 2020

Demographics	
Age range (median), (n=241)	0-92 (40)
Age categories in years (n=241)	n (%)
<5	4 (2)
5 to 17	13 (5)
18 to 59	166 (69)
≥60	57 (24)
Sex (n=238)	n(%)
Female	127 (53)

Table 3. Patient outcomes in *Salmonella*Newport cluster 2007MLJJP-1, as of July 24, 2020

Outcomes	**n (%)**
Hospitalized (n=123)	33 (27)
Died (n=128)	0 (0)

Persons infected with the outbreak strain of *Salmonella* Newport, by state of residence, as of July 23, 2020 (n=242)



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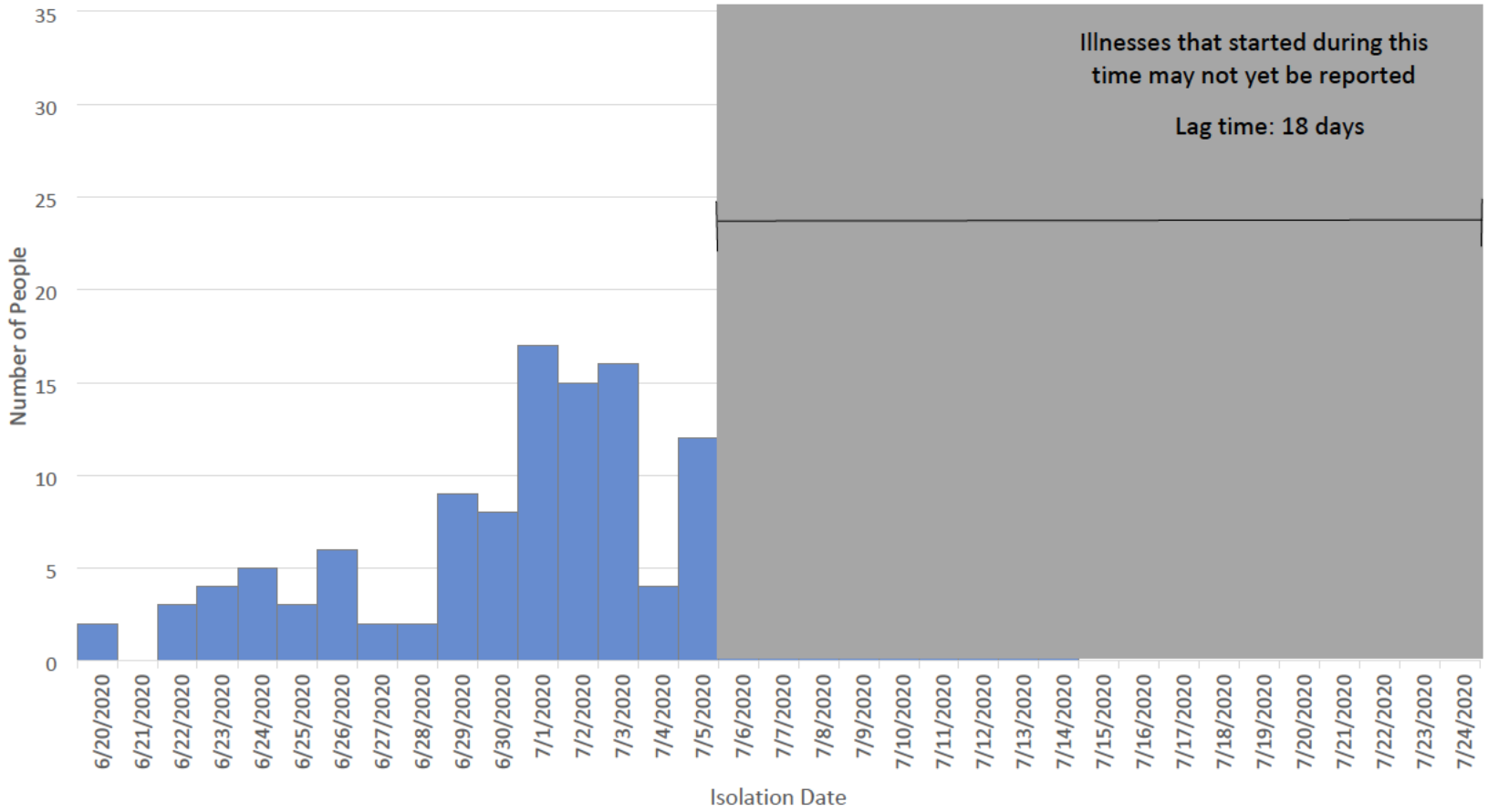
People infected with the outbreak strain of *Salmonella* Newport by date of sample isolation* as of July 24th, 2020



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WGS Information on Cluster

- All cases highly related at 0-4 alleles by cgMLST.
- Cluster is related (5 alleles) to 2 isolates from the historical cluster 1509MLJJP-1 (no vehicle identified)
- NCBI Pathogen Detection Pipeline shows international clinical matches from the UK and almond isolate matches within 14 SNPs.
- Canada reports matches by sequencing
- Cluster 2007MLJJP-1 is >2,000 alleles apart from 2006MLJJP-1

Information for internal use only; not for distribution. Data are preliminary and subject to change

Exposures from SEDRIC as of July 24, 2020

- Leafy greens (45/78) [p-value = 0.127]
- Cilantro (27/78) [p-value = 0.0001]
- Onions (40/78) [p-value = 0.999]
- Tomatoes (55/78) [p-value = 0.034]
- Chicken (56/78) [p-value = 0.411]
- Ground beef (50/78) [p-value < 0.001]
- Other beef (23/78) [p-value = 0.999]
- Almonds (6/54) [p-value= 0.999]
- *all the above includes Yes + maybe

- Grocery stores: 23/102 Walmart, 21/102 Costco, 19/102 Smith's, 14/102 Fred Meyers, 9/102 HyVee
- Mexican style restaurants: 33/95
- Sandwich restaurants: 10/95 Subway, 5/95 Jersey Mike's, 3/95 Jimmy John's

- CA reports 5 Mexican-style restaurant subclusters
- OR reporting various type of subclusters
  - Mexican-style restaurant
  - Nursing home
  - Various Subways
- WY – Mexican-style restaurant subcluster
- MT – Local restaurant subcluster
- MI – 4 Mexican style restaurant subclusters, 1 other restaurant subcluster

Information for internal use only; not for distribution. Data are preliminary and subject to change

Exposures from HGQ as of July 24, 2020

- 8/16 ground beef
- 9/16 other beef
- 13/16 chicken
  - No subclustersidentified commonalities among meat items
- 14/16 leafy greens
  - Romaine most common (7)
- 6/16 cilantro
- 13/16 tomatoes
- 9/16 onions
  - +3 likely onion-containing dishes

Information for internal use only; not for distribution. Data are preliminary and subject to change

Salmonella Newport Cluster 2007MLJJP-1

July 29, 2020

Information for internal use only; not for distribution. Data are preliminary and subject to change

State	No. of cases
Alaska	6
Arizona	14
California	49
Colorado	10
Delaware	1
Florida	3
Idaho	6
Illinois	10
Indiana	2
Iowa	15
Kansas	1
Kentucky	1
Maine	4
Maryland	1
Michigan	23
Minnesota	10
Mississippi	2
Missouri	8
Montana	33
Nebraska	5
Nevada	5
New York	5
North Carolina	3
North Dakota	5
Ohio	7
Oregon	71
Pennsylvania	2
South Carolina	1
South Dakota	14
Tennessee	5
Texas	1
Utah	63
Virginia	4
Washington	2
West Virginia	2
Wisconsin	5
Wyoming	17

Cases of *Salmonella*Newport in cluster 2007MLJJP-1 as of July 29, 2020

- Case definition:
  - Infection with *Salmonella*Newport and
  - with isolate matching by cgMLST within 0-5 alleles
  - with illness onset during 6/19/2020–present
- 416 cases from 37 states
- Isolation dates:6/20/2020 –7/18/2020
- Reported onset dates (n=226): 6/19/2020 –7/12/2020

Information for internal use only; not for di . Data are preliminary and subject to change

Table 2. Patient demographics in *Salmonella*Newport cluster 2007MLJJP-1, as of July 29, 2020

Demographics	
Age range (median), (n=414)	0-102 (39)
Age categories in years (n=414)	n (%)
<5	7 (2)
5 to 17	23 (6)
18 to 59	300 (72)
≥60	84 (20)
Sex (n=408)	n(%)
Female	213 (52)

Table 3. Patient outcomes in *Salmonella*Newport cluster 2007MLJJP-1, as of July 29, 2020

Outcomes	**n (%)**
Hospitalized (n=236)	59 (25)
Died (n=233)	0 (0)

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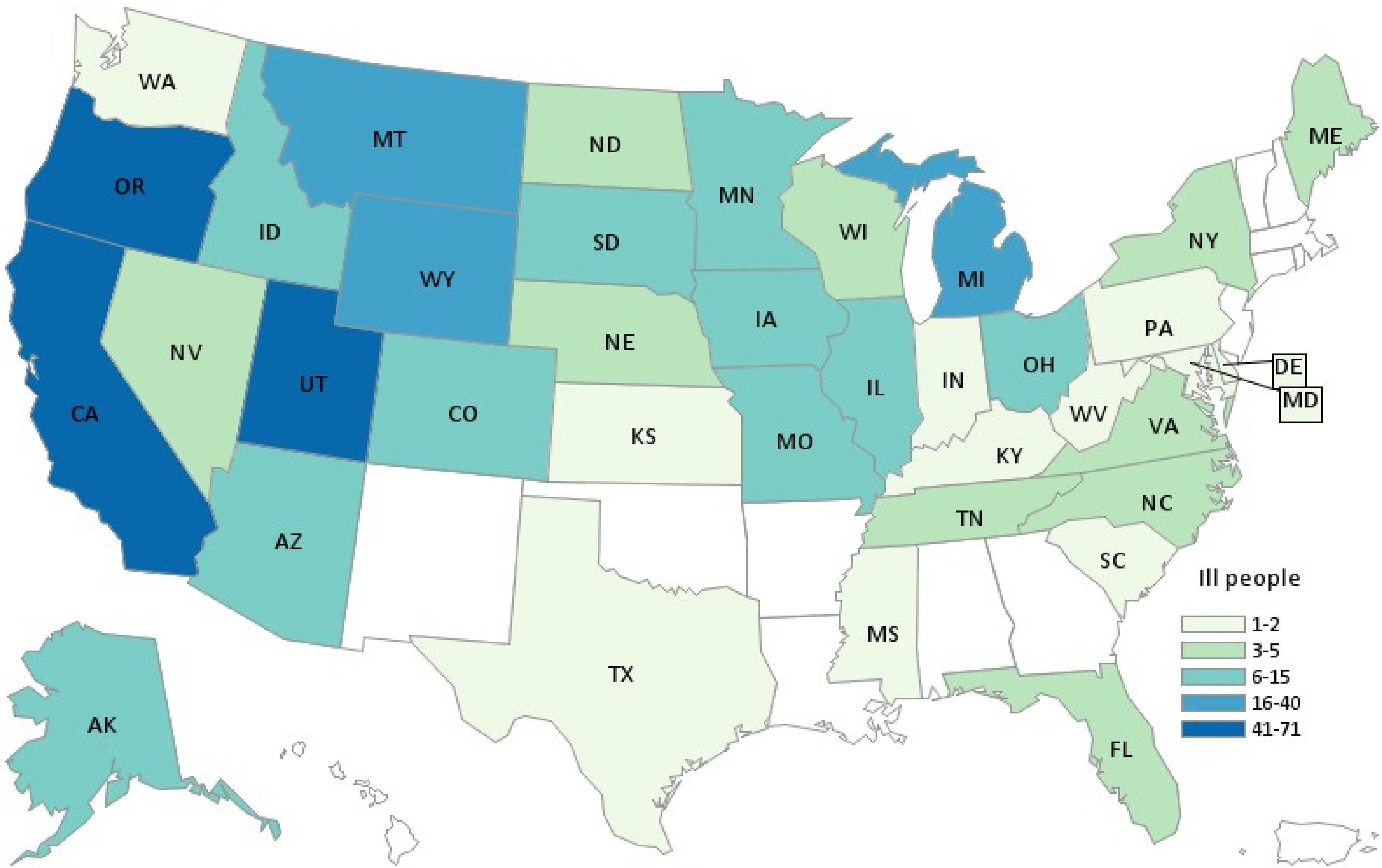
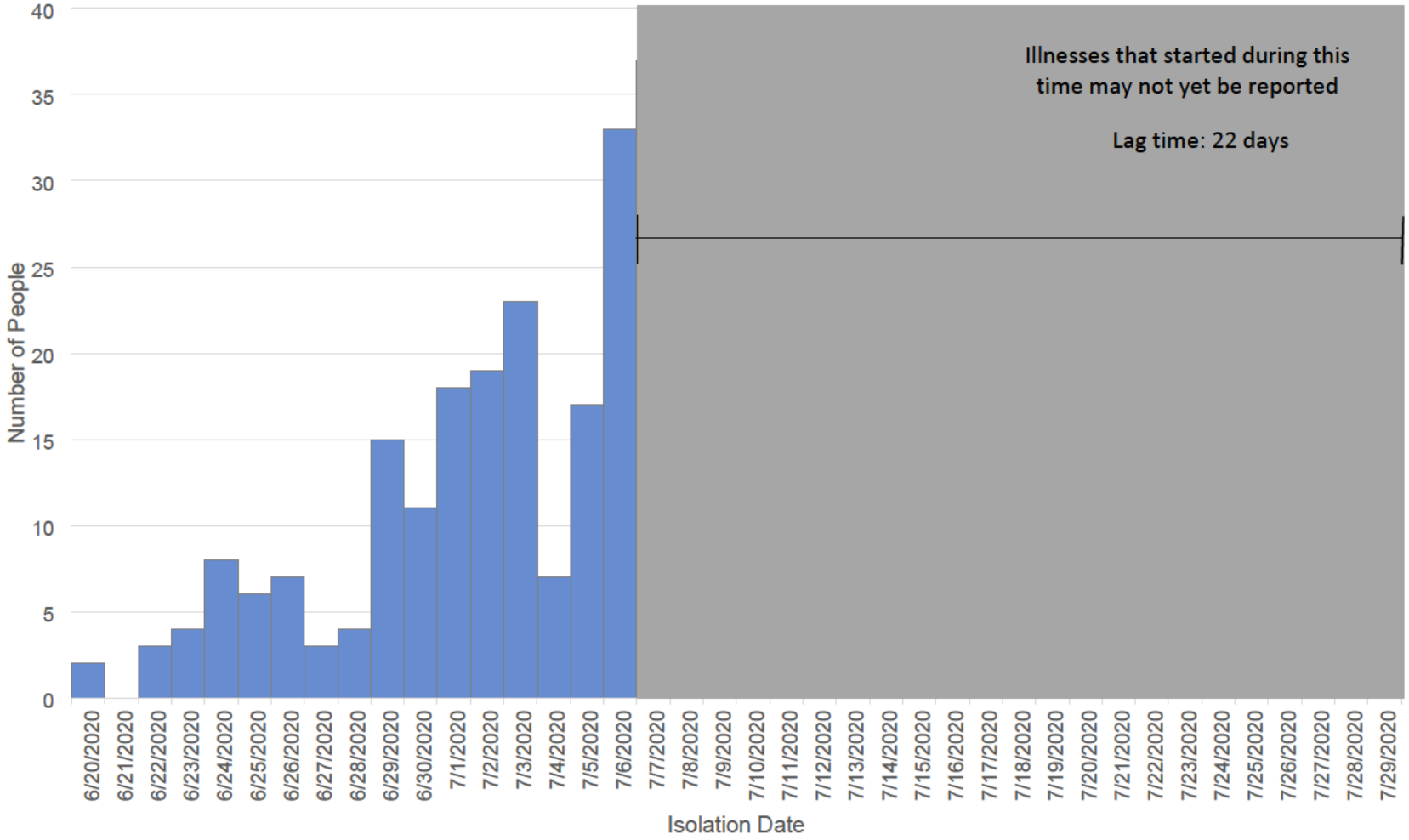
Persons infected with the outbreak strain of *Salmonella* Newport, by state of residence, as of July 29, 2020 (n=416)



People infected with the outbreak strain of **Salmonella** Newport by date of sample isolation* as of July 29th, 2020



(EQUO) For Official Use Only

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WGS Information on Cluster

- All cases highly related at 0-5 alleles by cgMLST.
- Cluster is related (5 alleles) to 2 isolates from the historical cluster 1509MLJJP-1 (no vehicle identified)
- NCBI Pathogen Detection Pipeline shows international clinical matches from the UK and almond isolate matches within 14 SNPs.
- Canada reports matches by sequencing
- Cluster 2007MLJJP-1 is >2,000 alleles apart from 2006MLJJP-1

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Exposures from HGQ as of July 29, 2020

- 34/52 ground beef
- 25/52 other beef
- 42/52 chicken
- 45/52 leafy greens
  - 21 romaine, 21 iceberg
- 26/52 cilantro
- 40/52 tomatoes
  - 14 cherry/grape, 9 red round, 9 vine, 5 roma, 10 unspecified
- 37/52 onions
  - 10 red, 9 white, 7 yellow, 2 green, 13 unspecified
  - +3 likely onion-containing dishes

Information for internal use only; not for distribution. Data are preliminary and subject to change

Subcluster Exposures as of July 29, 2020

SCID	White Onion	Green Onion	Red Onion	Red Round Tomatoes	Roma Tomatoes	Green Peppers	Hot Peppers	Cilantro	Ground Beef
SC-01		X	X		X		X	X	
SC-02			X	X		X		X	X
SC-03	X		X		X	X		X	
SC-04		X	X			X	X	X	X
SC-05		X	X				X	X	X
SC-06	X		X	X				X	X
SC-07	X		X	X					
SC-08		X	X	X		X			X

Information for internal use only; not for distribution. Data are preliminary and subject to change

Salmonella Newport Outbreak 2007MLJJP-1

August 12, 2020

Information for internal use only; not for distribution. Data are preliminary and subject to change

State	No. of cases
Alabama	1
Alaska	17
Arizona	32
Arkansas	2
California	109
Colorodo	14
Connecticut	2
Delaware	1
Florida	4
Georgia	2
Hawaii	3
Idaho	33
Illinois	44
Indiana	3
Iowa	20
Kansas	2
Kentucky	1
Maine	5
Maryland	1
Massachusetts	2
Michigan	41
Minnesota	17
Mississippi	4
Missouri	10
Montana	52
Nebraska	10
Nevada	11
New Hampshire	2
New Jersey	4
New Mexico	1
New York	7
North Carolina	5
North Dakota	9
Ohio	11
Oregon	90
Pennsylvania	15
Rhode Island	1
South Carolina	1
South Dakota	21
Tennessee	6
Texas	2
Utah	97
Virginia	8
Washington	34
West Virgina	2
Wisconsin	9
Wyoming	21

Cases of *Salmonella*Newport in cluster 2007MLJJP-1 as of August 12, 2020

- Case definition:
  - Infection with *Salmonella*Newport and
  - with isolate matching by cgMLST within 0-6 alleles
  - with illness onset during 6/19/2020–present
- 789 cases from 47 states
- Isolation dates:6/20/2020 –8/3/2020
- Reported onset dates (n=353): 6/19/2020 –7/26/2020

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Table 2. Patient demographics in *Salmonella* Newport cluster 2007MLJJP-1, as of August 12, 2020

Demographics	
Age range (median), (n=786)	0-102 (40)
Age categories in years (n=786)	n (%)
<5	16 (2)
5 to 17	40 (5)
18 to 59	560 (71)
≥60	170 (22)
Sex (n=774)	n(%)
Female	427 (55)

Table 3. Patient outcomes in *Salmonella* Newport cluster 2007MLJJP-1, as of August 12, 2020

Outcomes	n (%)
Hospitalized (n=370)	94 (25)
Died (n=363)	0 (0)

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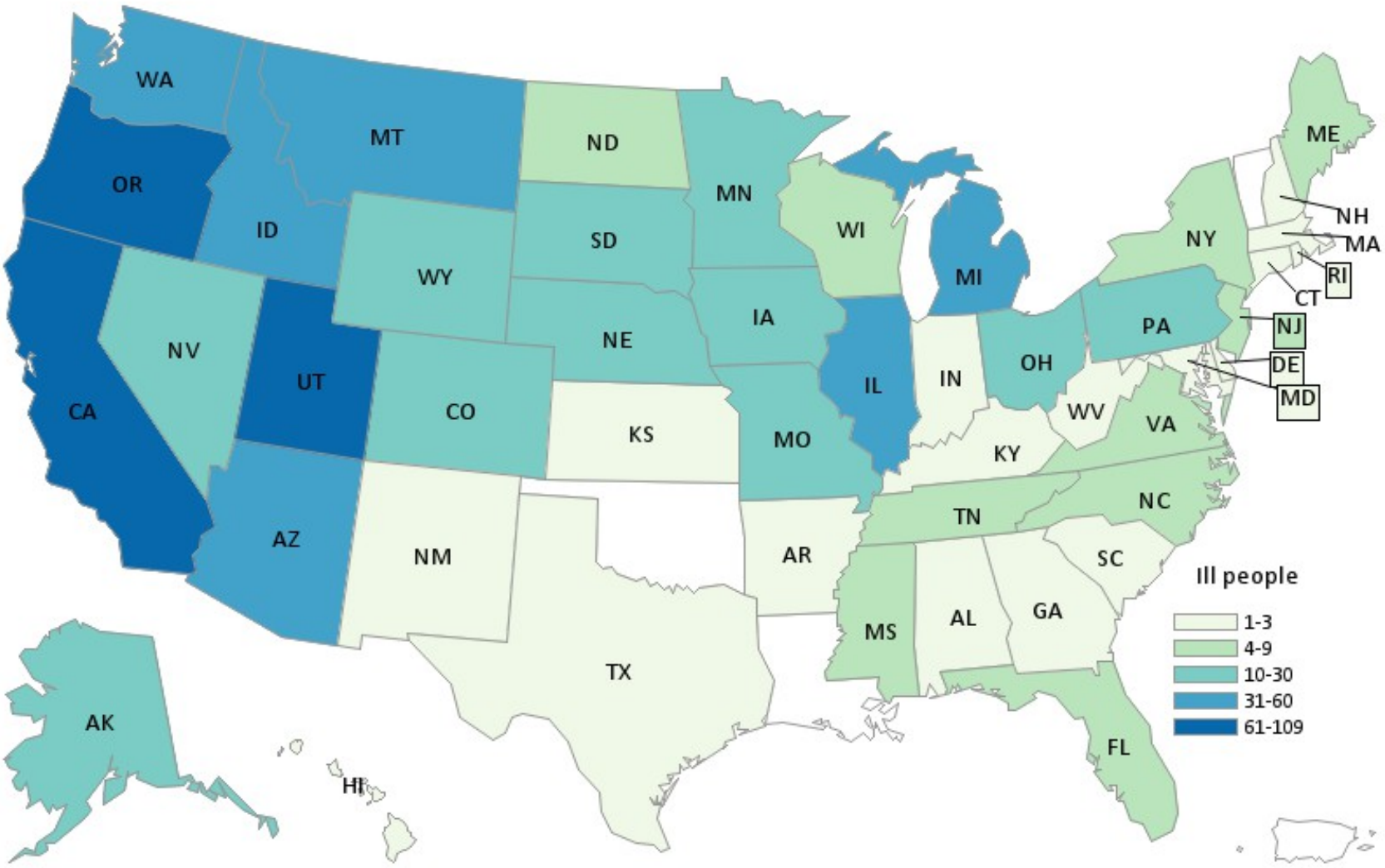
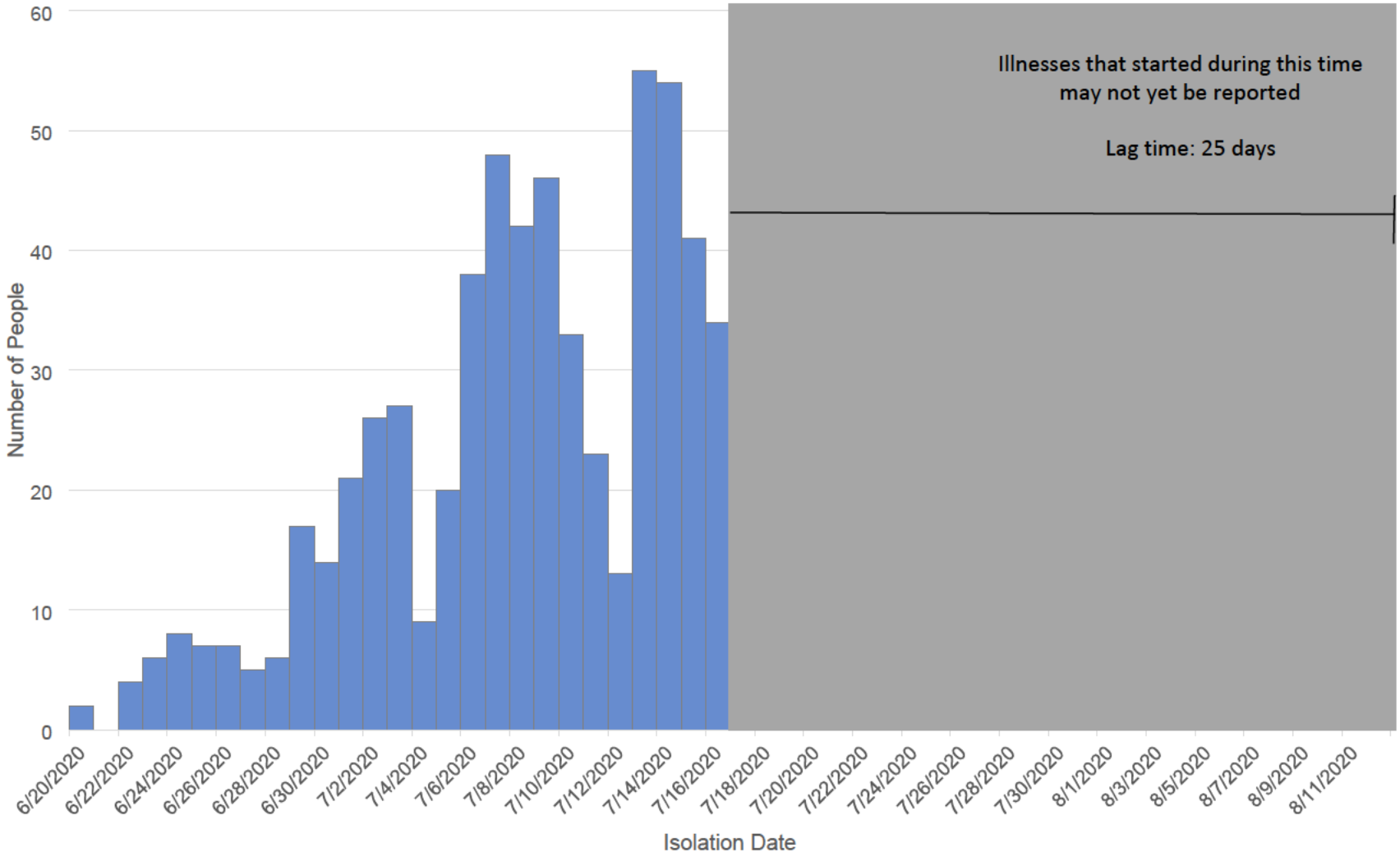
Persons infected with the outbreak strain of *Salmonella* Newport, by state of residence, as of August 12, 2020 (n=789)



(FOUO) Information for internal use only; not for distribution. Data are preliminary and subject to change*** Salmonella 2020-08-18

People infected with the outbreak strain of **Salmonella** Newport by date of sample isolation* as of August 12th, 2020



*n = 789

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WGS Information on Cluster

- All cases highly related at 0-6 alleles by cgMLST.
- Cluster is related (5 alleles) to 2 isolates from the historical cluster 1509MLJJP-1 (no vehicle identified)
- NCBI Pathogen Detection Pipeline shows international clinical matches from the UK and almond isolate matches within 14 SNPs.
- Canada reports matches by sequencing
- Cluster 2007MLJJP-1 is >2,000 alleles apart from 2006MLJJP-1

Information for internal use only; not for distribution. Data are preliminary and subject to change

Exposures from HGQ (v1) as of August 12, 2020

- 97/130 (75%) onions
  - 32 white, 31 red, 20 yellow, 32 unspecified
  - 108/130 (83%) if including likely onion-containing dishes
- 110/130 (85%) leafy greens
  - 53 iceberg, 47 romaine
- 65/130 (50%) cilantro
- 96/130 (74%) tomatoes
  - 29 cherry/grape, 22 red round, 19 roma, 14 vine, 29 unspecified

Information for internal use only; not for distribution. Data are preliminary and subject to change

Exposures from HGQ (v2) as of August 12, 2020

- 12/12 (100%) onions
  - 7 (58%) red
    - 10/12 (83%) yes/maybe red
  - 6 (50%) white
    - 10/12 (83%) yes/maybe white
  - 4 (33%) yellow
    - 6/12 (50%) yes/maybe yellow

- 9/12 (75%) leafy greens
- 7/12 (58%) cilantro
- 8/12 (67%) tomatoes

Information for internal use only; not for distribution. Data are preliminary and subject to change

Subcluster Exposures as of August 12, 2020

- 26 subclusters identified from 9 states
  - 25 with info provided to CDC
- 21 with complete onion info
  - 21/21 any onion
  - 15/21 multiple onion types
  - 16/21 red onions
  - 12/21 yellow onions
  - 10/21 white onions

Subcluster	White onions	Yellow onions	Red onions
AZ-01		X	X
CA-01	X		X
CA-02		X	
CA-04	X		
CA-05	X	X	X
IL-02			X
MI-01	X	X	
MI-02	X	X	X
MI-04	X	X	
MI-06	X	X	
MT-01			X
MT-03			X
ND-01			X
OR-01		X	X
OR-02		X	X
OR-04	X		X
OR-05	X		X
OR-06		X	X
UT-01	X		X
UT-03		X	X
WY-01		X	X

Information for internal use only; not for distribution. Data are preliminary and subject to change

CRT3 Meeting Minutes

Salmonella Newport/Unknown/Jul 2020

Meeting Title:	**Sysco Precall**
Date/Time:	07/30/20, 11:00am ET
Facilitator:	CORE
Attendees:	ORA: 3W, SERCS, DDHAFO, PSN; CFSAN: OC, OFS, IAS, OAO, CORE; OC: OCC; CDC; CFIA, PHAC
Purpose: To discuss talking points and identify speakers for the upcoming firm call with Sysco (b) (4)	

Items Discussed:

Agenda for Pre-call:

- Roll Call
- General situational awareness updates
  - 8 subclusters supplied by Sysco. We've received records related to the Canadian traceback, but US records are still pending. Canada is planning on public communications.
  - 3W had a meeting with Sysco this morning to explain purpose of call and agenda. Explained 4 agencies. Discussion regarding public comms
  - Sysco has pushback and apprehension wanted to know if they would be named
  - Kari got a heads-up phone call from Sysco last night. Sysco felt like they only knew of one subcluster associated with Sysco.

- Proposed agenda
  - Introductions
  - Canadian outbreak investigation overview
    i. PHAC epidemiology update
    ii. CFIA regulatory update
  - US outbreak investigation overview
    i. CDC epidemiology update
    ii. FDA traceback update
  - Discussion regarding public communication

- Talking points
  - PHAC
    i. 115 confirmed cases. Number of case clusters at restaurants and living facilities. Onions, tomatoes, leafy greens have been id'd as common food. Red Onions have been id'd as likely source. Red onions were supplied by Sysco, no similarities among other food items.
  - CFIA
    i. May make formal recall request of product sent to Canada. Or at least an indication that it is in the works. If recall, then Sysco would be named publicly. (*OCC doesn't think it's an issue to name suppliers later because we are not naming sysco in our press release)

- CDC
  - i. 396 ill in 36 states. High proportion list onions. Will send slides. Red onion only item in common among subclusters. Outbreak is moving fast. Will issue CDC Food Safety Alert.
- FDA
  - i. FDA is tracing 14 subclusters as a part of US investigation. Some did not receive product from sysco. Eight subclusters did received product from Sysco. Products Onion, Tomatoes, and Cilantro. Imperial Fresh brand onions 25# bag. We do have information pending for additional subclusters. Some subclusters may drop off or be added based on information we receive.
- Communications
  - i. PHAC
    - i.1. In order to prevent further illness preparing to issue an advisory to not eat, sell, or use onions imported from the US.
  - ii. CFIA
    - ii.1. May have to have a food lines about the investigation is ongoing.
  - iii. CDC
    - iii.1. Planning to follow Canada's advice around not eating, selling, using red onions from the US following Canada's advice
  - iv. FDA
    - iv.1. Planning to put out outbreak advisory following Canada's advice. Investigation is ongoing.

- Anticipated questions from firm & federal responses
  - (b) (5)
- Questions to Sysco
  - Where are the onions grown/from for the timeframe of interest? Want to target any comms
  - Inquire if onions distributed to Canada were also distributed in the US market
  - How are onions held

- Identify speakers for the Firm Call
  - Jane will facilitate the call
  - FDA –
    - i. CORE – Evelyn Pereira, Corinne Newhart, Dr. Stic Harris
    - ii. Office of Food Safety – Mary Tijerina, Patricia Homola
    - iii. Office of Compliance – Thomas Kuntz
    - iv. Office of Chief Counsel – Alexandra Jabs
  - CDC –
    - i. CDR Laura Gieraltowski, CDR Matt Wise, Lauren Stevenson
  - PHAC –
    - i. April Hexemer

- CFIA –
    i. Ken Marcynuk
- Health Canada

CRT3 Meeting Minutes

Salmonella Newport/Unknown/Jul 2020

Meeting Title:	**Sysco Firm Call**
Date/Time:	07/30/20, 12:00pm ET
Facilitator:	CORE
Attendees:	CORE, OC, PSN, OCC, 3W, DDHAFO, OFS, OAO, CDC, CFIA, PHAC, Sysco
Purpose: To discuss the ongoing outbreak investigation with Sysco (b) (4)	

Items Discussed:

1) Introductions
   a) Sysco
   b) FDA
   c) CDC
   d) PHAC
   e) CFIA
2) Canadian outbreak investigation overview
   a) PHAC epidemiology update
      a.i) Epi investigation id'd red onions as likely source. 80% report red onions expect 38% among population
      a.ii) Red onions were received from sysco facilities. Same commonalties were not noted for other food items.
   b) CFIA regulatory update
3) US outbreak investigation overview
   a) CDC epidemiology update
      a.i) Reviewed slides
   b) FDA traceback update
      b.i) Traceback investigation is ongoing. Tracing tomatoes, onions and cilantro. Tracing 14 subcluster. 6 did not get product from Sysco
4) Questions

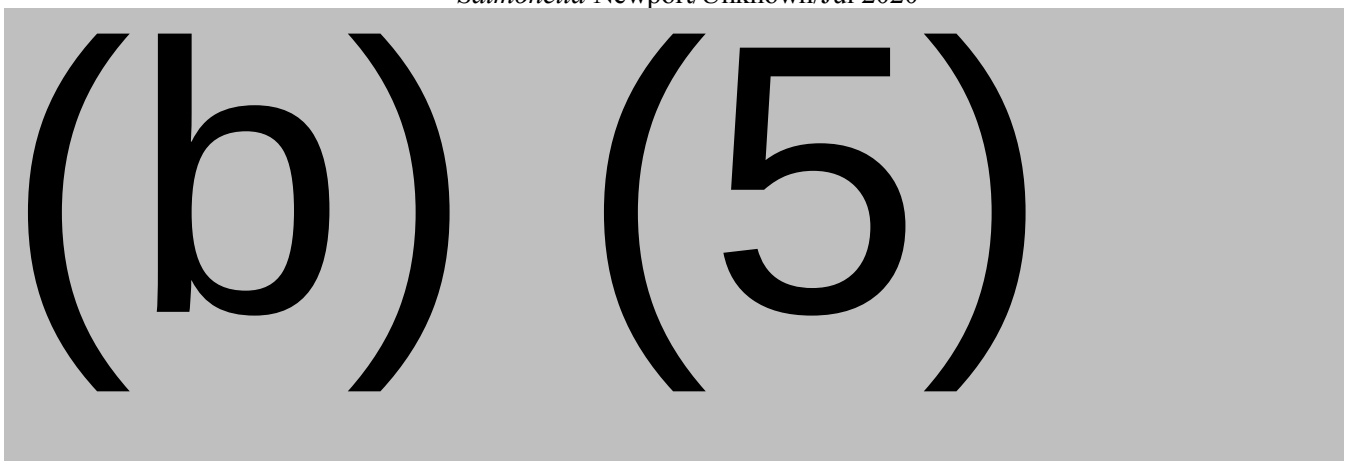
(b) (5)

5) Discussion regarding public communication

(b) (5)

CRT3 Meeting Minutes

Salmonella Newport/Unknown/Jul 2020



CRT3 Meeting Minutes

Salmonella Newport/Red Onion (Suspect)/Jul 2020

Meeting Title:	**Onions 52 Precall**
Date/Time:	07/30/20, 4:15pm ET
Facilitator:	CORE
Attendees:	ORA: 3W, 4W SERCS, DDHAFO, PSN; CFSAN: OC, OFS, IAS, OAO, CORE; OC: OCC; CDC; CFIA, PHAC
Purpose: To discuss talking points and identify speakers for the upcoming firm call with Onions 52 (Syracuse, UT).	

Items Discussed:

Agenda for Pre-call:

- Roll Call
- General situational awareness updates
  - Onions 52 supplied onions to Sysco. Onions 52 sells Thompson and Hartley
  - Onions 52 reached out to ORA HAF3W, they heard from Sysco they needed to call DAL-DO about an outbreak. FDA has an interest in obtaining info from them. Asked about whole vs sliced and diced
  - CFIA needs to know how product is packaged and identified

- Proposed agenda
  - Introductions
  - Canadian outbreak investigation overview
    i. PHAC epidemiology update
    (b) (5)
    ii. CFIA regulatory update
    ii.1.
  - US outbreak investigation overview
    i. CDC epidemiology update
    ii. FDA traceback update
  - Discussion regarding public communication

- OC recalls will ask if the firm plans on taking any product actions at this time. 24 hours to respond to FDAs ask
  - CFIA reports the likely first shipment of interest was May 24.
  - Scoping back to the earliest illness onset date + some lag. Unless we have indication its all of their red onions in exp.
  - CDC's first illness onset is 6/19/20, Canada is 6/15/20

  - Communications
    i. PHAC
    i.1. Will issue public advisory this evening
    ii. CFIA
    iii. CDC

iv. FDA
    iv.1. (b) (5)

- Anticipated questions from firm & federal responses
- Questions to Onions 52
    - Where were the onions grown that were supplied to the market between may and present
    - Comingling
    - Packaging
    - Who else they pack for
    - Ask about their business model
    - Exclusive suppliers or sell to others
    -

- Identify speakers for the Firm Call
    - CORE will facilitate the call
    - FDA –
        i. CORE – Evelyn Pereira, Doug Karas, Dr. Stic Harris
        ii. Office of Food Safety – Mary Tijerina, Patricia Homola
        iii. Office of Compliance – Kathy Darlington
        iv. Office of Chief Counsel – Alexandra Jabs
    - CDC –
        i. CDR Laura Gieraltowski, CDR Matt Wise, Lauren Stevenson
    - PHAC –
        i. April Hexemer
    - CFIA –
        i. Ken Marcynuk

CRT3 Meeting Minutes

Salmonella Newport/Red Onions (Suspect)/Jul 2020

Meeting Title:	**Onions 52 Firm Call**
Date/Time:	07/30/20, 5:00pm ET
Facilitator:	CORE
Attendees:	CORE, OC, OCC, 3W, 4W, DDHAFO, OFS, OAO, OSPOP Recalls, IAS, CDC, CFIA, PHAC, Onions 52
Purpose: To discuss the ongoing outbreak investigation with Onions 52.	

Items Discussed:

1) Introductions
   a) Onions 52
   b) FDA
   c) CDC
   d) PHAC
   e) CFIA

2) Canadian outbreak investigation overview
   a) PHAC epidemiology update
      a.i) Epi investigation id'd red onions as likely source. 80% report red onions expect 38.5% among population
      a.ii) Red onions were received from Sysco facilities. The same commonalties were not noted for other food items.
      a.iii) Grocery store purchases were not supplied by Sysco.
   b) Questions
      b.i) What grocery store chain? Most commonly reported Save-On-Food
      b.ii) What providence? More western providences, mostly BC
      b.iii) Outbreak Providences? Shared case count by Providences
      b.iv) Soby and Lablaw grocery stores have been reported

   c) CFIA regulatory update
      c.i) Still investigating
      c.ii) PHAC risk assessment says red onions sold through Sysco are a high risk so proceeding with class 1 recall tonight
   d) Questions
      d.i) Have you done testing? Strong epi evidence
      d.ii) How is it a class 1 risk? Salmonella in a ready to eat food or food eaten raw is a class 1 risk
      d.iii) PHAC has been investigating last week. Cases were eating at restaurants where they were reporting burgers. Were perusing understanding toppings on burgers. It was determined that it was likely red onions.
      d.iv) Processed onions? No, invoices indicate whole onions
      d.v) Testing? There are a few samples in the lab and not representative of all of the onions on the market. Don't always rely on direct product testing
      d.vi) Stic explained outbreak investigation process

3) US outbreak investigation overview
   a) CDC epidemiology update
      a.i) Reviewed slides
      a.ii) 396 ill in the US
      a.iii) Explained restaurant subclusters – 22 illness sub cluster in the US (2-7 illnesses per cluster)
      a.iv) Issuing a food safety alert tomorrow advising not to eat red onions
   b) Questions
      b.i) Was mostly in restaurants or at home/retail? Most of the subclusters are restaurant locations

   c) FDA traceback update
      c.i) Traceback investigation is ongoing. Tracing tomatoes, onions and cilantro. Tracing 14 subcluster. 6 did not get product from Sysco, but still working to ID their supply chain. 8 subclusters did receive onions from Sysco, 6 specifically received red onions. Onions 52 was identified as the common supplier to these sub clusters
      c.ii) Questions
         (c.ii.1) Can onions carry salmonella?
         (c.ii.2) Can they know the POSs? No, they will need to go to Sysco for this information
         (c.ii.3) Has Sysco identified any supplier that was no onions 52? CFIA says only if there was (b) (4)
         (c.ii.4) From 5/24- present (b) (4) and mostly from (b) (4) onions up to 6/1. Since June they've been coming from Thompson in California
            (c.ii.4.a) Thompson sells to other accounts besides Sysco, mostly (b) (4)
               (c.ii.4.a.i) First red onion shipped from CA
               (c.ii.4.a.ii) Supplied wholesalers in (b) (4)
         (c.ii.5) Overview of Onions 52 business model
            (c.ii.5.a) Grow, pack, and ship onions 52 weeks/year. Grow in Washington, ID, UT, OR, CA, NM
            (c.ii.5.b) Sell to (b) (4)
            (c.ii.5.c) Thompson - Grower/Shipper in CA. (b) (4) in Bakersfield. Ship (b) (4) . Have (b) (4) . Thompson workers (b) (4) . Ship to (b) (4)
            (c.ii.5.d) Did (b) (4)
            (c.ii.5.e) No impacts from COVID
      c.iii) Recall Ask

(c.iii.1) Swab tested packing lines and sent product sample of red, white, and yellow and watermelon. All were negative.

(c.iii.2) Were onion samples from same fields of interest? From fields in CA

(c.iii.3) The fields were completed several weeks ago that would have been the first onions have been gone for several weeks.

(c.iii.4) How much is likely still on the market? Probably not much, summer onions do last

(c.iii.5) FDA's ask will stay for a product action to get the product off the shelf

4) Discussion regarding public communication
   a) PHAC is preparing to issue an advisory this afternoon. Targeted to western and central Canada advising consumers to not eat/sell imported onions from the US.
   b) CFIA is issuing press tonight identifying sysco as the seller of red onions
   c) CDC is planning to issue a food safety alert to not eat red onions and products containing red onions tomorrow.
   d) FDA is (b) (5) . Referring the CDC and Canadian Comms. (b) (5)

CRT3 Meeting Minutes

Salmonella Newport/Red Onion (suspect)/Jul 2020

Meeting Title:	**SPTC #1**
Date/Time:	07/31/20, 7:00pm ET
Facilitator:	CORE
Attendees:	ORA: HAF: 5W, DHAFO, PSN, ORS; CFSAN: OC, CORE; CDPH, CDFA
Purpose: To discuss assignment for Thompson International Inc.	

Items Discussed:

1. Recall overview of what is expected
2. Comms overview
    a. CDC's isn't live yet
3. CORE Leadership – Situation Overview
    a. Concerned with lack of forthcomingness from the firm. Can we get boots on the ground sooner than next week.
4. Who is going out? FDA, CDPH, CA RRT
    a. Questions
        a.i. Water samples
            a.i.1. Sediment or filtration
        a.ii. Ask where the fields are
        a.iii. If and who can get out there this weekend
            a.iii.1. CDPH is behind the curve. Would need to get approval from mgmt. lab isn't prepared to take samples. Will not be able to get staff there this weekend
            a.iii.2. 5W – Can start with PSN and support maybe not to Wednesday. Mentioned that this could delay recall because company is working on limited staff.
                a.iii.2.a. Can offer support to PSN, but cant lead
                a.iii.2.b. POC
            a.iii.3. CDFA – can assist, but not lead
        a.iv. Env sampling, raw onion collection should be initial focus
        a.v. ORA/ORS will ID lab that can take samples
        a.vi. Assignment needs to be issued Sunday, early is better
        a.vii. Need eric brown and Rebecca bell
        a.viii. Contact mike Mahovic or Samir
        a.ix. Food contact surface sampling zone 1, 2, 3; water sampling of canal and reservoirs at fields
        a.x. If staff gets out there and cant do recall and env at same time
            a.x.1. Not our problem if they cant shadow sample us
        a.xi. CDFA and CDPH do not know who owns the canal. Will likely need to get permission to sample
            a.xi.1. CDFA will reach out to water district

CRT3 Meeting Minutes

Salmonella Newport/Red Onion (suspect)/Jul 2020

Meeting Title:	**Tactics #2**
Date/Time:	07/31/20, 2:00pm ET
Facilitator:	CORE
Attendees:	ORA: HAF: 1E, 2E, 5E, 6E, 1W, 2W, 3W, 4W, 5W, 6W, SERCs, DHAFO, PSN, ORS, OSPOP, LAO; CFSAN: OC, OFS, IAS, OAO, CORE; OCC, OEO; CDC; CFIA, PHAC; AK, CA, IL, IN, MD, MI, MN, MO, ND, NE, NY, OH, OR, TN, UT, VA, WA, WI, WV
Purpose: To discuss proposed incident objectives and field activities to occur during the upcoming Operational Period. These incident objectives and activities will be reviewed to determine what has been accomplished to date and what additional work is needed.	

Items Discussed:

- Collaborate with CDC to obtain epidemiologic information regarding any new cases, updates to exposure histories, and whole genome sequencing analyses.
    - 508 cases in 39 states
    - 6/19-7/19/20 onsets
- Collaborate with Canadian Food Inspection Agency and Public Health Agency of Canada to obtain updates to their epidemiologic information, product sampling results, and traceback investigation.
    - PHAC: 114 cases in 5 providences, 6/15-7/18 onset, 15 clusters
    - CFIA: Recall from sysco in western Canada. Sysco sells directly online to consumers in ON. Investigating process in Vancouver that imports from same company as sysco.
- Coordinate traceback activities and collaborate with investigational partners to evaluate additional clusters for potential traceback investigations.
    - Product flow diagram was reviewed
    - CDPH say (b) (4) leg is getting worse as they go further into it. FDA may remove it as a subcluster due to poor records
    - OR reports many cases shopping at (b) (4)
- Collaborate with Office of Regulatory Affairs Human and Animal Foods 1E (NWE-DO) to develop a traceback information request for Subway Headquarters *(b) (4)* .
    - Received records. All locations appear to be 1 off exposure minus MI. Named *(b) (4)* as source for onions, not seeing it elsewhere. Sysco doesn't supply to all subways and those it does were specifically branded for subway.

- Follow up with Office of Regulatory Affairs Human and Animal Foods 3W (DAL-DO) on eNSpect Assignment #167287 for record collection from Sysco (b) (4)
    - Received records from Sysco. Still expecting some information. Sysco can provide records on the lots that were distributed
    - Held firm call with sysco yesterday, prior to Canada webpostings.
- Follow up with Office of Regulatory Affairs Human and Animal Foods 4W and 5W (DEN-DO, SAN-DO) and Office of Regulatory Affairs Produce Safety Network regarding potential assignment for an inspection and record collection at Thomson International Inc (Bakersfield, CA).
    - Thomson is packer and farm implicated in our investigation.
    - Intending to initiate a voluntary recall. Requesting epi summary and traceback summary to help them understand how they are tied to the outbreak. Will recall all varieties of onions shipped 5/26-present (all shipments out of Bakersfield location to sysco).
    - 1st shipment from (b) (4) onions was earlier, not going to recall these because didn't go to sysco and have (b) (4) .
    - Want explanation on states/providences they don't ship product to MB, ME.
    - Have product in warehouse in Canada they want to test.
    - Inspection at Thomson.
        - PSN can coordinate per usual. Need to talk to SMEs to see if need to expand past secondary activities farm.
        - Mission critical designation – OC can coordinate it through Bill Correll.
        - Timing: sometime next week to get it pulled together
        - Collecting samples of recalled product.
            - OC says samples can be regulatory
            - Glen Bass wants more discussion before collecting samples.
            - OC recalls says they can be research samples.
    - CDPH asks about what Thomson is doing in the Bakersfield facility
        - 5W says ceasing operations and shipping activities
        - (b) (4) in Bakersfield. Each field has different varieties of onions.
    - Firm indicated they have a very specific traceability program and can tie to variety of onions
- Represent FDA on CDC-facilitated States calls, the Canadian Outbreak Investigation Coordinating Committee call, and Industry calls.
    - Held industry call today with FDA, CDC, CFIA, PHAC letting industry know comms likely to come out
- Coordinate with federal, state, and local communications partners to ensure appropriate messaging is provided related to this investigation.
    - CORE is preparing to issue web post. In clearance now.
    - CDC is working on getting investigation notice updated today. Want recall notice, but if recall isn't done today they will go out with broader advice.

- PHAC no plans
- CFIA might issue additional recall warning updates if new recalls
- States: CA – no press, OR likely to issue press.

- Disseminate incident related information to FDA stakeholders and facilitate the sharing of incident related information across partner agencies through FoodSHIELD *Salmonella* Newport/Red Onion (suspect)/Jul 2020

- Solicit recommendations from investigation partners related to process improvements, food safety and preventive controls, research opportunities, and education/training.

CRT3 Meeting Minutes

Salmonella Newport/Red Onion/Jul 2020

Meeting Title:	**SPTC #2**
Date/Time:	08/14/20, 12:00pm ET
Facilitator:	CORE
Attendees:	ORA: DHAFO, PSN; CFSAN: OC, OFS, CORE
Purpose: Discuss observations identified during the Thomson International Inc Root Cause Investigation.	

Items Discussed:

1. PSN Update from Thomson International, Inc.
   a. Concerns:
      i. Buildings not fully enclosed to protect from animals soiling equipment
      ii. Inadequate measures against pest control (cat, pigeons, scat) and for equipment cleaning
      iii. Multiple SOPs contradict (no record of training of employees) and lack of coordination within organization
   b. Water samples (pending results)
2. Produce Safety Rule
   a. Discussed Forms 4056 and 484
   b. Verbal vs. written issuance
3. Review documents and edit
   a.

   b.

4. Questions
   A. (b) (4) Onion tail water usage
      i.
      ii. Investigating water event's relation to onion contamination
      iii. Field harvested onions in (b) (4)
      iv. Shipments in traceback show harvest date (b) (4) Rationale: Can't rule out contamination by timing.

   B. Sanitation Records
      i. Records must reflect reality
   C. Was fertilizer with poultry pellets used? No
   D. What prompted the usage of sanitizer in the water?
      i. Firm uses (b) (4)
         (b) (4)
      ii. No direct usage of sanitizer in the water
   E. Are chemicals being used according with the label? Not confirmed
   F. Water Treatment complying with EPA rule
      i. Not FDA jurisdiction but water treatment has to be used according to the label

G. Harvest measures
   i. Either mechanical or by hand
   ii. PSN will summarize harvesting observations and share with group

5. Assignment responses
   A. PSN will follow-up in writing once organized
   B. Issue assignments to Holtville
      i. Red onions grown at Holtville were (b) (4)
      ii. Planning to issue new assignment for Holtville (draft assignment based on previous Bakersfield assignment)
      iii. Volunteers will be contacted about forming groups to investigate Holtville. Due to COVID conditions, working with volunteers on outbreaks back to back (Cyclospora then S. Newport).

6. Next Steps:
   A. PSN will schedule another call to follow up on questions and recommendations

CRT3 Meeting Minutes

Salmonella Newport/Red onion (suspect)/Jul 2020

Meeting Title:	**Tactics #3**
Date/Time:	08/07/2020, 2:00pm ET
Facilitator:	CORE
Attendees:	ORA: HAF: 1E, 2E, 5E, 6E, 1W, 2W, 4W, 5W, 6W, SERCs, DHAFO, PSN, ORS, OSPOP, LAO; OCI; CFSAN: OC, OFS, OAO, CORE; OCC, OEO; CDC; FSIS; CFIA, PHAC; AZ, CA, IL, IA, MI, MN, MO, ND, NY, OR, TN, UT, VA, WA, WI, WV
Purpose: To discuss proposed incident objectives and field activities to occur during the upcoming Operational Period. These incident objectives and activities will be reviewed to determine what has been accomplished to date and what additional work is needed.	

Items Discussed:

- Collaborate with CDC to obtain epidemiologic information regarding any new cases, updates to exposure histories, and whole genome sequencing analyses.
    - 701 cases in 46 states (around 40 uploads per day)
    - 6/19-7/19/20 onset dates
    - White, Yellow, Red onion types

- Collaborate with Canadian Food Inspection Agency and Public Health Agency of Canada to obtain updates to their epidemiologic information, product sampling results, and traceback investigation.
    - PHAC: 239 cases in 7 providences, 6/15-7/22 onset dates, 29 hospitalized, 0 deaths, Red Onion continuously reported
    - CFIA: Recall updates. Working through secondary products and anticipate more products under recall. Samples from senior living facilities have been undetected for Salmonella (pending more results).

- Coordinate traceback activities and collaborate with investigational partners to evaluate additional clusters for potential traceback investigations.
    - Traceback diagram was reviewed
    - Noted (b) (4) grows berries, not onions
    - One field cannot supply majority of US and Canada but packing house could be the commonality
    - Investigate (b) (4) relationship with Onions 52

- Michigan cluster of yellow onions being reported (requesting additional information from Thomson International)
- Monitoring CDPH's Traceback leg
- Possible onion shortage's linkage to increased export of onions to Central America
- OR didn't receive samples from (b) (4) of interest

- Follow up with Office of Regulatory Affairs Human and Animal Foods 3W (DAL-DO) on eNSpect Assignment #167287 for record collection from Sysco (b) (4)

- Follow up with Office of Regulatory Affairs Human and Animal Foods 5W (SAN-DO) and Office of Regulatory Affairs Produce Safety Network regarding assignments FACTS #12055268 and FACTS #12055297 for Root Cause Investigation and record collection at Thomson International Inc (Bakersfield, CA).
  - Team 1
    - Collected environmental samples (2). Negative results
    - Noted animal activity within and around the packing facilities
  - Team 2
    - Revisited same locations as Team 1
    - Noted sanitation concerns
    - Reviewed (b) (4) connection
    - SOPs didn't correlate with packing facility protocol
    - Collected onion samples (pending results)
    - Teams 2A & 2B formed to inspect fields, growing practices, water usage
  - Scat samples appear to be mammalian
  - Packing lines (b) (4)

- Follow up with Office of Regulatory Affairs Office of Regulatory Science regarding samples #1145760, #1145761, and #1141449.
  - Lab samples are pending results

- Coordinate with federal, state, and local communications partners to ensure appropriate messaging is provided related to this investigation.
  - CORE updated case counts and included additional recalls
  - CDC updated outbreak notices with additional recalls and locations
  - PHAC will be updating Public Health Notice
  - CFIA: no plan
  - States: no plan

- Represent FDA on CDC-facilitated States calls, the Canadian Outbreak Investigation Coordinating Committee call, and Industry calls.

- Disseminate incident related information to FDA stakeholders and facilitate the sharing of incident related information across partner agencies through FoodSHIELD *Salmonella* Newport/Red Onion (suspect)/Jul 2020

- Solicit recommendations from investigation partners related to process improvements, food safety and preventive controls, research opportunities, and education/training. https://www.surveymonkey.com/r/NXRRM2Q

CRT3 Meeting Minutes

Salmonella Newport/Red onion/Jul 2020

Meeting Title:	**Tactics #4**
Date/Time:	08/14/2020, 2:00pm ET
Facilitator:	CORE
Attendees:	ORA: HAF: 1E, 2E, 5E, 6E, 1W, 3W, 4W, 5W, 6W, SERCs, DHAFO, PSN, DIO, ORS, OSPOP, OCI; CFSAN: OC, OFS, OAO, CORE; OEO; CDC; FSIS; CFIA, PHAC; AZ, IL, MI, MN, MT, ND, OR, PA, TN, UT, WA, WI, WV
Purpose: To discuss proposed incident objectives and field activities to occur during the upcoming Operational Period. These incident objectives and activities will be reviewed to determine what has been accomplished to date and what additional work is needed.	

Items Discussed:

- Collaborate with CDC to obtain epidemiologic information regarding any new cases, updates to exposure histories, and whole genome sequencing analyses.
    - 850 cases from 47 states
    - 06/19-07/26/20 onset dates
    - 108/133 confirmed onion exposures
    - From questionnaire, majority report eating multiple types on onions
    - 26 subclusters
- Collaborate with Canadian Food Inspection Agency and Public Health Agency of Canada to obtain updates to their epidemiologic information, product sampling results, and traceback investigation.
    - 339 cases in 7 provinces, majority in Western Canada
    - 06/15/-07/2/20 onset dates
    - 07/27/20 isolation date
    - 133/154 report red onion exposure in restaurants and grocery store
    - Updating Public Health Notice to reflect case count

A. CFIA

i. Post recalls for secondary products (for example, fresh salsa)

ii. Identify fields associated with Thomson International? → Field-level traceback not available

iii. (b) (4) Subway traced back (Subway (b) (4)

- Coordinate traceback activities and collaborate with investigational partners to evaluate additional clusters for potential traceback investigations.
    - Added (b) (4) to diagram
    - Additional clusters?
        - MI → working to investigate cluster in (b) (4) White and yellow onions reported. Will conduct record collection.
    - (b) (4) background and connection to traceback (PSN will contact investigation team to follow up)
- Follow up with Office of Regulatory Affairs Human and Animal Foods 6E (CHI-DO) regarding an assignment for record collection from (b) (4)
    - Continue attempts for collection via phone and email
    - Once received, update traceback diagram as needed
- Follow up with Office of Regulatory Affairs Human and Animal Foods 5W (SAN-DO) and Office of Regulatory Affairs Produce Safety Network regarding assignment FACTS #12055297 for Root Cause Investigation and record collection at Thomson International Inc (Bakersfield, CA).
    - Evaluating records
    - Deciding on determinations in either written or verbal
    - Concerns for pest, employee training, and sanitation
    - Holtville investigation pending since it's confirmed that onions grown in Holtville were (b) (4) and shipped to customers
    - Will share assignment with SMEs but will be using template for Bakersfield's assignment
- Follow up with Office of Regulatory Affairs Office of Regulatory Science regarding samples #1145623, #1145624.
    - Pending results
    - No validated method for Salmonella filtration analyses
    - Suggest better way to collect water samples in future

A. Thoughts on the need for more onion samples?

    - Office of Compliance - interested in sampling as many onions as possible from the implicated timeframe and/or recall
    - Produce Safety Network - investigators sampled all lots of onions available in Bakersfield
    - Considering Sysco onions previously collected or other onions to use for more sampling

- Coordinate with federal, state, and local communications partners to ensure appropriate messaging is provided related to this investigation.

- CORE:
  - Monitoring downstream recalls.
  - Notices updated yesterday with secondary products affected by recall.
  - Major recalls page released to post downstream recalls
- CDC: updated posts and case count update will be next week.
- CDPH: no updates
- CFIA: no updates
- States: no updates

- Represent FDA on CDC-facilitated States calls, the Canadian Outbreak Investigation Coordinating Committee call, and Industry calls.
  - CDC- no plans
- Disseminate incident related information to FDA stakeholders and facilitate the sharing of incident related information across partner agencies through FoodSHIELD *Salmonella* Newport/Red Onion/Jul 2020

- Solicit recommendations from investigation partners related to process improvements, food safety and preventive controls, research opportunities, and education/training. https://www.surveymonkey.com/r/NXRRM2Q

CRT3 Meeting Minutes

Salmonella Newport/Red Onion/Jul 2020

Meeting Title:	**SPTC #5**
Date/Time:	09/10/20, 12:00pm ET
Facilitator:	CORE
Attendees:	ORA: ORS; CFSAN: ORS, CORE
Purpose: Discuss laboratory methodology used to analyze the samples collected as part of the outbreak.	

Items Discussed:

1. Overview of samples
   a) Sampling assignments sent as part of investigations
   b) 26 samples collected from Thomson Intl. Bakersfield (all negative)
   c) 25 samples collected from Thomson Intl. Holtville (10 positive for Salmonella but WGS pending)
   d) 52 product samples collected from distribution centers (all negative)

2. ORA ORS
   a) Onion samples analyzed with Trypticase Soy Broth (TSB)
   b) Environmental samples
      a.i. Lactose Broth (LB) was used for environmental samples (sampling recommendations were changed)
      a.ii. Sediment and water samples were spiked
      a.iii. Mix of 2004.03 and 2011.03 methods with swab type samples
      a.iv. Mix of spiked samples with the VIDAS method
   c) Scat samples
      a.i. Scat samples were spiked

3. CFSAN ORS
   a) Onion samples
      i. Inhibitory test on Salmonella growth
      ii. Found Trypticase Soy Broth (TSB) worked well
   b) Environmental samples
   c) Scat samples

4. Methodology
   a) Sampling guidance was changed amidst analyses
   b) Discussed ways to document changes/recommendations via Sharepoint, etc..
   c) Ensure offices are operating from the most recent guidance
   d) Advised to separate assignments from methodologies
   e) CFSAN ORS would like feedback from analysts to improve effectiveness

f) Supported open lines of communication between ORA ORS and CFSAN ORS for best practices

5. Updates for remaining isolates
   a) 8 isolates from 754 sample pending WGS
   b) 31 isolates from 755 sample pending WGS
   c) For the 4 positive samples, WGS should be confirmed next week

CRT3 Meeting Minutes

Salmonella Newport/Red onion/Jul 2020

Meeting Title:	**Tactics #5**
Date/Time:	08/25/2020, 12:00pm ET
Facilitator:	CORE
Attendees:	ORA: HAF: 1E, 2E, 4E, 1W, 2W, 3W, 4W, 5W, 6W, DHAFO, PSN, DIO, ORS, OSPOP, ORA OE, LAO, OCI; CFSAN: OC, OFS, OAO, OOA, ORS, DPS, OCC, OEO, CORE; CDC; FSIS; CFIA, PHAC; IL, MD, MN, MT, ND, OR, UT, WA, WI, WV
Purpose: To discuss proposed incident objectives and field activities to occur during the upcoming Operational Period. These incident objectives and activities will be reviewed to determine what has been accomplished to date and what additional work is needed.	

Items Discussed:

- Collaborate with CDC to obtain epidemiologic information regarding any new cases, updates to exposure histories, and whole genome sequencing analyses.
    - 993 cases from 47 states, onset dates 06/19 - 08/3/20 (investigating one case with 08/14/20 onset date)
    - Decline in reports of cases
    - Cases are related 0-6 alleles by cgMLST
    - Analyzed 300 responses to questionnaire (80% identified onions)
    - 34 sub clusters (31 from restaurants, 3 from grocery stores)

- Collaborate with Canadian Food Inspection Agency and Public Health Agency of Canada to obtain updates to their epidemiologic information, product sampling results, and traceback investigation.

A. CFIA
    - Cases appear to be slowing down
    - No updates
    - No food safety warnings updated recently
    - Observing possible exposures

B. PHAC

CRT3 Meeting Minutes

Salmonella Newport/Red onion/Jul 2020

- 395 cases, latest onset date is 08/07/20, most exposures are from restaurants or living facilities
- Updated public health notice, decline in confirmed cases
- 1 sample of recalled onion (0nions 52 from Costco) pending analysis
- Next meeting is on Thursday

- Coordinate traceback activities and collaborate with investigational partners to evaluate additional clusters for potential traceback investigations.

- Follow up with Office of Regulatory Affairs Human and Animal Foods 5W (SAN-DO) and Office of Regulatory Affairs Produce Safety Network regarding assignment FACTS #12055297 for investigation and record collection at Thomson International Inc (Bakersfield, CA).
    - Preparing to do close out on Wednesday or Thursday of this week at Bakersfield. Finalizing details for the close out meeting

- Coordinate with Office of Regulatory Affairs Human and Animal Foods 5W (SAN-DO/LOS-DO) and Office of Regulatory Affairs Produce Safety Network regarding an assignment for Root Cause Investigation at Thomson International, Inc. (Holtville, CA).
    - Completed environmental sampling of cooling area
    - Visited (b) (4) for sprinkler
    - Completed ultra-filtration sample
    - Provided firm with a 484
    - No more sampling locations to visit and no more samples to acquire
    - One sample # was duplicated because of how it was keyed in the system. Corrections are pending
    - Any issues the investigators obviously noted? No, not to their understanding

- Follow up with Office of Regulatory Affairs Human and Animal Foods 4W (DEN-DO) and 1E (NYK-DO) regarding sample collection assignments FACTS# 12061017 and FACTS# 12061168 at Sysco (b) (4) and Sysco (b) (4)
    A. DEN-DO
        - Sampling team is collecting 6 samples from 3 remaining item numbers. Issue 484 and close out afterwards
    B. NYK-DO
        - Plan on collecting 16 samples for submission
    - Ability to use 702b portions depends on if sample is perishable. Can the lab convert 702b portions to samples? Response pending
    - Offices will work together on perishability of onions and legal usage of 702b portions

- Who's responsible for reporting results from 702b samples? Who to report to (Thomson, Sysco, or both)? Will follow up

- Follow up with Office of Regulatory Affairs Office of Regulatory Science and Center for Food Safety and Applied Nutrition Office of Regulatory Science regarding presumptive and pending samples.
    - Original ultra-filtration samples did not arrive in expected timeframe and were potentially compromised while sitting at elevated temperatures. Samples are being processed
    - Best case scenario, presumptive positive samples will be confirmed on Friday. Results from WGS will be ready on Monday with the latest being Tuesday. No updates on other pending samples.
    - Some onions at Holtville were not subject to the recall (harvest dates were before Bakersfield). Only fresh harvested bulb onions (none are frozen) are of concern.

- Coordinate with federal, state, and local communications partners to ensure appropriate messaging is provided related to this investigation.
    - If lab results are positive, communication strategy will change

- Represent FDA on CDC-facilitated States calls, the Canadian Outbreak Investigation Coordinating Committee call, and Industry calls.

- Disseminate incident related information to FDA stakeholders and facilitate the sharing of incident related information across partner agencies through FoodSHIELD *Salmonella* Newport/Red Onion/Jul 2020

- Solicit recommendations from investigation partners related to process improvements, food safety and preventive controls, research opportunities, and education/training. https://www.surveymonkey.com/r/NXRRM2Q

CRT3 Meeting Minutes

Salmonella Newport/Red onion/Jul 2020

Meeting Title:	**Tactics #6**
Date/Time:	09/01/2020, 12:00pm ET
Facilitator:	CORE
Attendees:	ORA: HAF: 1E, 2E, 4E, 5E, 3W, 4W, 5W, 6W, OHAFO, DHAFO, PSN, DIO, ORS, LAO, OCI; CFSAN: OC, OFS, IAS, OAO, ORS, DPS, OCC, OEO, CORE; CDC; FSIS; CFIA, PHAC; CA, IA, IL, IN, KS, MD, MI, MN, MT, OR, UT, VA, WI
Purpose: To discuss proposed incident objectives and field activities to occur during the upcoming Operational Period. These incident objectives and activities will be reviewed to determine what has been accomplished to date and what additional work is needed.	

Items Discussed:

- Collaborate with CDC to obtain epidemiologic information regarding any new cases, updates to exposure histories, and whole genome sequencing analyses.
    - 1,023 cases from 47 states
    - 7 new additions over weekend
    - 08/18/20 is the latest isolation date
    - 06/19-08/03/20 onset dates
    - 0-6 cgMLST
    - 34 sub clusters from 13 states
- Collaborate with Canadian Food Inspection Agency and Public Health Agency of Canada to obtain updates to their epidemiologic information, product sampling results, and traceback investigation.
    - CFIA
        - No updates and completed traceback
    - PHAC
        - 457 confirmed cases
        - 7 provinces (majority in Alberta)
        - 08/11/20 is the latest isolation date
        - 2 reported deaths (one case is confirmed to not be linked to Salmonella outbreak and one case's cause of death is unknown)

- Identified many links to Thomson International, Inc. onions

- Coordinate with Office of Regulatory Affairs Human and Animal Foods 5W (SAN-DO/LOS-DO) and Office of Regulatory Affairs Produce Safety Network regarding assignment FACTS# 12060391 for an investigation at Thomson International, Inc. (Holtville, CA).
    - No updates
    - Working on reports and will share with CORE once complete
    - Thomson investigation in Holtville, CA closed on 08/24/20
    - Thomson investigation in Bakersfield, CA closed on 08/27/20
- Follow up with Office of Regulatory Affairs Office of Regulatory Science and Center for Food Safety and Applied Nutrition Office of Regulatory Science and Office of Analytics and Outreach regarding presumptive and pending sample results and WGS analysis.
    - In total, 113 samples collected
    - CFSAN ORS
        - 2 Ultrafiltration samples are Salmonella positive (pending WGS), 5 Ultrafiltration samples are pending confirmation
    - ORA ORS
        - Product samples are pending completion.
        - From environmental samples (sediment, water, etc..), positive for Salmonella and several isolates submitted for WGS (6 do not match clinical outbreak)
        - 1 scat sample is pending confirmation
        - 20 samples pending WGS
    - Office of Analytics and Outreach
        - Waiting for one sample to be re-sequenced
    - Division of Produce Safety
        - Shared and discussed field map
        - Red onions were grown in (b) (4) field and yellow onions were grown in (b) (4) field
        - Yellow dots represent where sediment samples were collected
        - White dots represent where CRO, pending, or negative samples were collected
        - Holtville (b) (4) flows water (b) (4) . Provides drainage for (b) (4)
        - (b) (4) flows irrigation water (b) (4)
        - Cattle farm that appears in compromising condition is nearby a drain of interest
        - Area is dry (no rain since February of this year). Average temperatures range 110-120° Fahrenheit
        - (b) (4)
    - For Holtville, onions planted in (b) (4) were harvested (b) (4)
    - Office of Compliance: planning internal call to strategize plan
- Coordinate with federal, state, and local communications partners to ensure appropriate messaging is provided related to this investigation.

  - FDA plans to update case counts
  - CDC plans to update case counts
  - CAN updated case counts yesterday

- Represent FDA on CDC-facilitated States calls, the Canadian Outbreak Investigation Coordinating Committee call, and Industry calls.
  - No plans
- Disseminate incident related information to FDA stakeholders and facilitate the sharing of incident related information across partner agencies through FoodSHIELD *Salmonella* Newport/Red Onion/Jul 2020

- Solicit recommendations from investigation partners related to process improvements, food safety and preventive controls, research opportunities, and education/training. https://www.surveymonkey.com/r/NXRRM2Q

CRT3 Meeting Minutes

Salmonella Newport/Red onion/Jul 2020

Meeting Title:	**Tactics #7**
Date/Time:	09/11/2020, 12:00pm ET
Facilitator:	CORE
Attendees:	ORA: HAF: 1E, 2E, 4E, 5E, 1W, 2W, 6W, OHAFO, DHAFO, PSN, ORS, CFSAN: OC, OFS, IAS, ORS, DPS, OCD, OCC, OEO, CORE; CDC; FSIS; CFIA, PHAC; CA, IL, MD, MI, MN, MT, NY, OR, UT, VA, WI
Purpose: To discuss proposed incident objectives and field activities to occur during the upcoming Operational Period. These incident objectives and activities will be reviewed to determine what has been accomplished to date and what additional work is needed.	

Items Discussed:

- Collaborate with CDC to obtain epidemiologic information regarding any new cases, updates to exposure histories, and whole genome sequencing analyses.
    - 1,095 cases in 48 states
    - 06/20/20 - 08/25/20 onset dates
    - Related by 0-6 alleles cgMLST
    - From questionnaires, 66% reported red onions
    - No timeline on outbreak slowing down

- Collaborate with Public Health Agency of Canada to obtain updates to their epidemiologic information.
    - PHAC
        - 506 cases
        - Outbreak is slowing down
        - 08/16/20 is latest onset date
        - Long reporting delay
    - CFIA
        - No updates

CRT3 Meeting Minutes

Salmonella Newport/Red onion/Jul 2020

- Follow up with Office of Regulatory Affairs Office of Regulatory Science and Center for Food Safety and Applied Nutrition Office of Regulatory Science and Office of Analytics and Outreach regarding presumptive and pending sample results and WGS analysis.
    - WGS for water samples (multiple serotypes, with Newport being one of them) should be confirmed next week
    - WGS for 1 scat sample should be confirmed early next week

- Follow up with Center for Food Safety and Applied Nutrition Office of Food Safety, Office of Compliance, Office of Regulatory Affairs Produce Safety Network regarding an (b) (5)
    - Requested need for more sample collection as part of ongoing concern
    - Collaboration between Office of Compliance and Office of Food Safety
    - Samples collected will be regulatory
    - CFSAN Office of Compliance will issue assignment
    - ORA Produce Safety Network will receive support for ultrafiltration water samples next week
    - Samples are expected to arrive at CFSAN Office of Regulatory Science
    - Currently, scope of assignment is incomplete
    - Division of Produce Safety discussion of map
        - Focused on sediment sample collection (interested in 10 UF water samples)
        - Plans for water collection also
        - Relationship between retention basin, etc..
        - Soil samples weren't collected. Water, sediment, product, and scat samples were collected
        - 1 scat sample appeared as Poly D, indicating that it is most likely not S. Newport
        - Discussed "Sep 2020 Suggested Environmental Sample Collection" document
        - Desire for water samples from (b) (4) to be re-done

- Nearby (b) (4) is being noted for potential relationship
    - Product from Holtville went through Bakersfield facility
    - If positive match to outbreak strain in Holtville, suggested to not go to Bakersfield. This would not explain outbreak. Not all lots of interest, etc.. received product from Holtville
    - Possible to (b) (5) ? Agreed but will follow-up with leadership. Will mobilize as if starting on Tuesday to avoid last minute haste.
    - Ensured CA still has people available to help.

- Coordinate with federal, state, and local communications partners to ensure appropriate messaging is provided related to this investigation.
    - No updates

- Disseminate incident related information to FDA stakeholders and facilitate the sharing of incident related information across partner agencies through FoodSHIELD *Salmonella* Newport/Red Onion/Jul 2020

- Solicit recommendations from investigation partners related to process improvements, food safety and preventive controls, research opportunities, and education/training. https://www.surveymonkey.com/r/NXRRM2Q

Salmonella Newport Outbreak associated with red onions - BC, AB, SK, MB, ON, QC, PEI, USA – 2020-151

Updated: August 5, 2020

(b) (4)

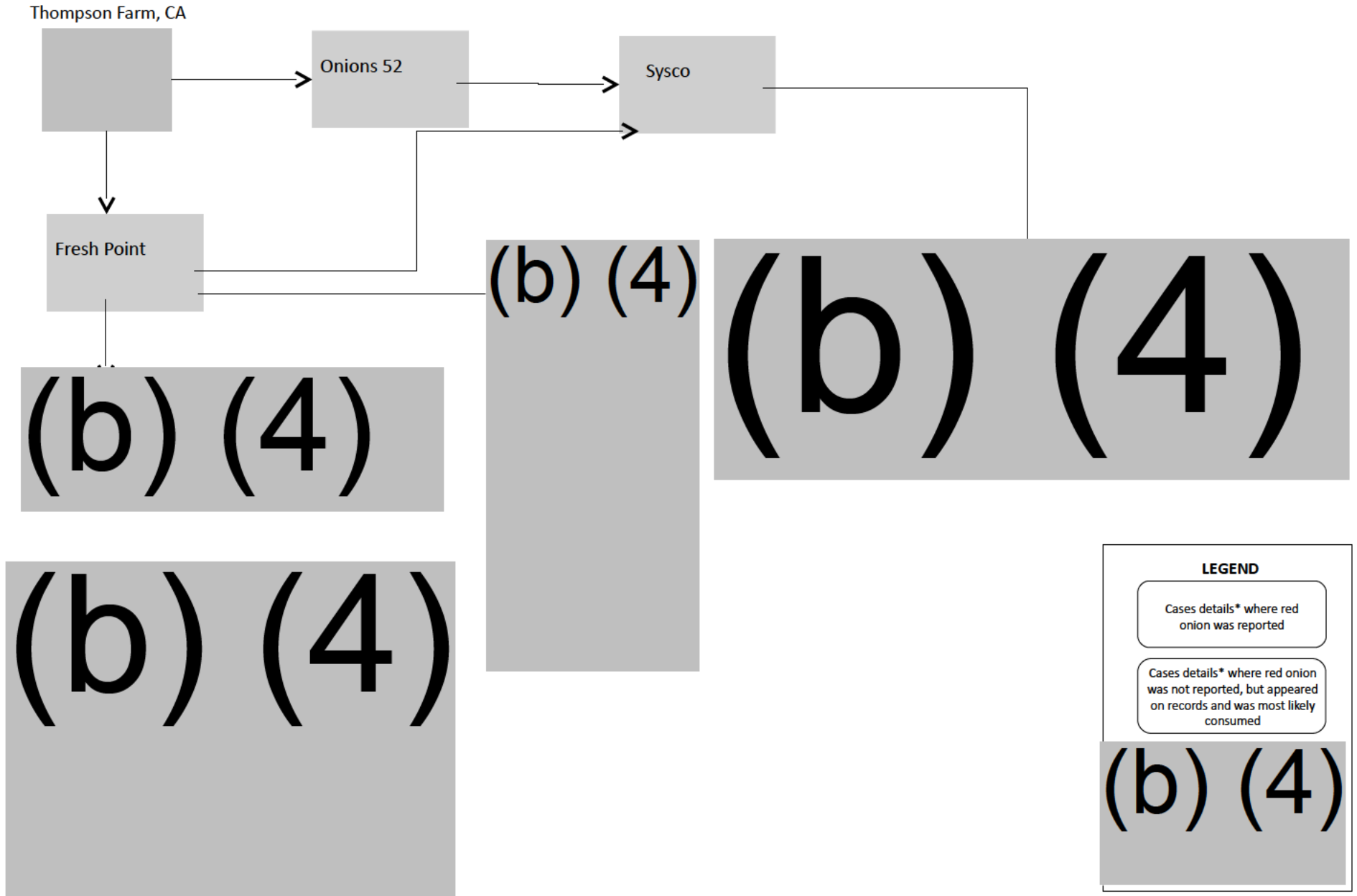
Thomson Farms

- Fields based out of Bakersfield CA area
- Common processing, storage, packing out of Bakersfield CA.
- (b) (4)
- (b) (4)

(b) (4)

(b) (4)

BC trace back for red onion, August 3



Courtesy of BCCDC

2020-Nov-03

Tuesday, August 11:

- No samples were collected.
- Information collected on Tuesday, August 11 provided further evidence that Thomson does not have adequate knowledge or control over their operation
    - They have (b) (4) total employees; nearly all work is performed by *(b) (4)* or *(b) (4)*
    - They rely heavily on (b) (4)
        - While reviewing documentation (newly discovered on Tuesday, August 11) the investigation team observed (b) (4) " and requested copies of all of these forms from 2019 to present (noting the dates of post dated documents prior the request). The copies and originals returned did not include the post dated documents.
        - While reviewing field and ranch risk assessment forms, the team consistently observed the exact same descriptions copy and pasted to describe different ranches
            - For example, Thomson's only Bakersfield ranch with (b) (4) is (b) (4) However, nearly all ranches were listed as having (b) (4) on site on Thomson risk assessment documents. These descriptions were written in paragraph form and it was exactly the same from one document to the next
- The investigation team came across a (b) (4) However, once they saw it, Mr. Thomson (politely) took the report from the team and said it was only for internal review. The team was interested in this report, as a lot of SOPs seemed to be dated (b) (4) . As mentioned previously, the team has concerns about the SOPs being followed, so (b) (5)

Pending Information from the team:

I posed the following back to the team, and will let you know as soon as I have the information.

(b) (5)

Next steps (internal):

(b) (5)

(b) (5)

(b) (4)

***Salmonella* Newport/Red onion/Jul 2020**
Traceback Investigation Summary
EON 371142

For internal FDA use only. This summary contains confidential, commercial information and may not be released outside FDA without appropriate redaction.

Traceback Abstract

A regulatory traceback was initiated for four legs (b) (4) points-of-service (POS) in response to an outbreak of *Salmonella* Newport illnesses. As of 10/08/2020, there were 1,132 culture-confirmed illnesses in 48 states [AK (25), AL (2), AR (2), AZ (39), CA (128), CO (32), CT (2), DE (2), FL (8), GA (11), HI (3), ID (43), IL (54), IN (4), IA (31), KS (3), KY (3), ME (6), MA (2), MD (7), MI (47), MN (19), MO (11), MS (5), MT (72), NC (6), ND (9), NE (10), NH (1), NJ (12), NM (3), NV (14), NY (14), OH (11), OK (1), OR (110), PA (27), RI (3), SC (1), SD (24), TN (7), TX (2), UT (115), VA (10), WA (150), WI (11), WV (3), WY (27)]. CDC identified red onions as the vehicle of interest. Reported onset dates ranged from 06/19/2020 to 09/11/2020.

Four traceback legs representing 26 cases were initiated on 07/21/2020. Factors used in identifying "best cases" were: more than one case at a single POS with exposures to red onions. Case patients included in the traceback investigation had known meal/exposure dates which ranged from 06/19/2020 to 07/15/2020. The timeframe of interest for record collection was identified as two weeks at POS for known meal dates and three weeks for onset dates.

The four traceback legs converged on Thomson International Inc~~, LLC~~ (Bakersfield, CA).

A summary of each traceback leg, including data analysis discussion, follows:

Traceback Leg 1 (Sysco Montana POS Leg)

Points-of Service:

(b) (4)

- Thomson International Inc~~, LLC~~; 11220 S. Vineland Rd., Bakersfield, CA 93307-9489

(b) (4)

(b) (4)

This restaurant is located at (b) (4) . There were two lab-confirmed cases associated with this POS with meal dates of 06/19/2020 or 06/20/2020 and 06/25/2020 or 06/26/2020. The case with the earlier meal date reported eating a nacho meal. The case with the later meal date also reported eating a nacho meal and the case's friend reportedly ate a burger and shared the nachos before becoming ill with diarrhea (unconfirmed case). (b) (4)

FDA Human and Animal Foods Division 6 West (Seattle District Office) worked with the Montana Department of Agriculture to collect records and information from the restaurant. FDA Human and Animal Foods Division 6 East (Chicago District Office) collected records related to this restaurant from US Foods Inc (Rosemont, IL) as a part of eNSpect assignment # 170684. FDA Human and Animal Foods Division 3 West (Dallas District Office) collected records related to this restaurant from Sysco (b) (4)) as a part of eNSpect assignment # 167287.

(b) (4) received red onions from their distributors Sysco Montana Inc *(b) (4)* *(b) (4)*

FROM: Sysco Montana Inc
Product Description: ONION RED JMBO BOX

Shipment Date	Invoice #	Qty
(b) (4)		

FROM: *(b) (4)*
Product Description: 1/10# PACKER ONIONS RED JMBO

Invoice Date	Invoice #	Qty
(b) (4)		

The bolded lots above were implicated because they would have been available at the restaurant within three weeks of the case patients' illness onset dates.

(b) (4)

This restaurant is located at (b) (4) . There were two lab-confirmed cases associated with this POS with illness onset dates of 06/25/2020 and 06/26/2020. The case with the earlier onset date reported yes to eating red and white onions. The case with the later onset date reported maybe to eating onions.

FDA Human and Animal Foods Division 1 West (Minneapolis District Office) worked with the North Dakota Department of Health to collect records and information from the restaurant. FDA Human and Animal Foods Division 3 West (Dallas District Office) collected records related to this restaurant from Sysco (b) (4) as a part of eNSpect assignment # 167287.

(b) (4) received red onions from their distributor Sysco Montana Inc *(b) (4)*

FROM: Sysco Montana Inc
Product Description: 25 LB IMPFRSH ONION RED JMBO FRSH BOX

Invoice Delivery Date	Invoice #	Qty
(b) (4)		

The bolded lots above were implicated because they would have been available at the restaurant within three weeks of the case patients' illness onset dates.

(b) (4)

This restaurant is located at (b) (4). There were two lab-confirmed cases, and a third unconfirmed case, associated with this POS with meal dates of 06/21/2020, between 06/19/2020 and 06/26/2020, and between 06/24/2020 and 07/01/2020. One confirmed case with an illness onset date of 06/27/2020 ate regularly at (b) (4), reported eating a burrito there, and said yes to eating white onions.

FDA Human and Animal Foods Division 4 West (Denver District Office) worked with the Wyoming Department of Agriculture to collect records and information from the restaurant. FDA Human and Animal Foods Division 3 West (Dallas District Office) collected records related to this restaurant from Sysco (b) (4)) as a part of eNSpect assignment # 167287.

(b) (4) received red onions from their distributor Sysco Montana Inc *(b) (4)*

FROM: Sysco Montana Inc
Product Description: 25 LB IMPFRSH ONION RED JMBO FRSH BOX

Invoice Delivery Date	Invoice #	Qty
(b) (4)		

*Invoice number was illegible.

The bolded lots above were implicated because they would have been available at the restaurant within two weeks of the case patients' meal dates.

(b) (4)

This restaurant is located at (b) (4). There were three lab-confirmed cases associated with this POS with meal dates of 07/09/2020 and 07/10/2020. The cases reported eating a burger meal and a nacho meal, respectively.

FDA Human and Animal Foods Division 6 West (Seattle District Office) worked with the Montana Department of Agriculture to collect records and information from the restaurant. FDA Human and Animal Foods Division 3 West (Dallas District Office) collected records related to this restaurant from Sysco (b) (4) as a part of eNSpect assignment # 167287.

(b) (4) received red onions from their distributor Sysco Montana Inc *(b) (4)*

FROM: Sysco Montana Inc
Product Description: 25 LB IMPFRSH ONION RED JMBO FRSH BOX

Invoice Delivery Date	Invoice #	Qty
(b) (4)		

The bolded lots above were implicated because they would have been available at the restaurant within two weeks of the case patients' meal dates.

Sysco Montana Inc *(b) (4)*

Sysco Montana Inc *(b) (4)*

FDA Human and Animal Foods Division 3 West (Dallas District Office) collected records related to this distributor from Sysco (b) (4)], as a part of eNSpect assignment # 167287.

Sysco Montana Inc received red onions from Thomson International Inc. (Bakersfield, CA) via distributor Onions 52 Inc (Syracuse, UT), (b) (4)

FROM: Onions 52 Inc

TO: (b) (4)

Product Description: US#1 Carton 25 lb Jumbo Red Conv Globe Type Onions Produce of USA

BOL Ship Date	Order #	Cust PO #	Qty
(b) (4)			

FROM: Onions 52 Inc

TO: (b) (4)

Product Description: US#1 Carton 25 lb Jumbo Red Conv Globe Type Onions Produce of USA

BOL Ship Date	Order #	Cust PO #	Qty
(b) (4)			

FROM: Onions 52 Inc

TO: (b) (4)

Product Description: US#1 Carton 25 lb Jumbo Red Conv Globe Type Onions Produce of USA

BOL Ship Date	Order #	Cust PO #	Qty
(b) (4)			

FROM: Onions 52 Inc
TO: (b) (4)
Product Description: US#1 Carton 25 lb Jumbo Red Conv Globe Type Onions Produce of USA

BOL Ship Date	Order #	Cust PO #	Qty
(b) (4)			

The bolded lots above were implicated because they would have been available to supply the implicated shipments to the POS. A single shipment with red onions from (b) (4)) has a ship date (b) (4) the first implicated shipment at (b) (4) and was not implicated. A single shipment with Subway branded red onions in a 35-lb container from (b) (4) was not implicated due to branding and container size.

(b) (4)

(b) (4)

FDA Human and Animal Foods Division 6 East (Chicago District Office) collected records related to this distributor from (b) (4) as a part of eNSpect assignment # 170684.

(b) (4) received red onions from (b) (4)

FROM: (b) (4) .
TO: (b) (4)
Product Description: 10#BG RED ONIONS T-JFP-C JUMBO US#1 Product of USA

BOL Ship Date	Order #	Cust PO #	Qty
(b) (4)			

FROM: (b) (4)
TO: (b) (4)
Product Description: US #1 Jumbo Red Onions 10# Mesh

BOL Ship Date	PO #	Delivery PO #	Qty
(b) (4)			

The bolded lots above were implicated because they would have been available to supply the implicated shipments to the POS.

Onions 52 Inc (Syracuse, UT) [FEI: 3016800010]

Onions 52 Inc is located at 800 S. 2000 W., Syracuse, UT 84075-6924.

FDA Human and Animal Foods Division 4 West (Denver District Office) collected information and records related to this distributor as a part of eNSpect assignment # 167509.

Onions 52 Inc (b) (4) Thomson International Inc~~, LLC~~ (Bakersfield, CA).

Thomson International Inc~~, LLC~~ (Bakersfield, CA) [FEI: 3004391505]

Thomson International Inc~~, LLC~~ is located at 11220 S. Vineland Rd., Bakersfield, CA 93307-9489.

FDA Human and Animal Foods Division 5 West (San Francisco District Office) and the California Department of Food and Agriculture performed an investigation with record collection and environmental sampling as a part of FACTS assignment # 12055268. FDA Office of Regulatory Affairs Produce Safety Network, FDA Human and Animal Foods Division 5 West (San Francisco District Office), the California Department of Public Health, and the California Department of Food and Agriculture performed an investigation with record collection and environmental, product, and water sampling as a part of FACTS assignment # 12055297.

Thomson International Inc~~, LLC~~ provided data in a spreadsheet that identified the growers, fields, harvester, harvest dates, pack dates, and lots for the red onions identified by the order numbers and customer purchase order numbers from implicated shipments sent to Sysco Montana Inc. Additional documentation provided by Thomson International Inc~~, LLC~~ included corrected invoices and pallet tags associated with each order, however the associated lot numbers were not consistent and not routinely managed by the firm. Thomson International Inc~~, LLC~~ identified the spreadsheet as the most accurate source of traceability information.

FOR: (b) (4)
Product Type: JR25CTN

Order #	Cust PO #	Grower	Field	Harvester	Harvest Dates	Pack Date	Lot
(b) (4)							

FOR: (b) (4)
Product Type: JR25CTN

Order #	Cust PO #	Grower	Field	Harvester	Harvest Dates	Pack Date	Lot
(b) (4)							

FOR: (b) (4)
Product Type: JR25CTN

Order #	Cust PO #	Grower	Field	Harvester	Harvest Dates	Pack Date	Lot
(b) (4)							

**Pack date was not available.

FOR: (b) (4)
Product Type: JR25CTN

Order #	Cust PO #	Grower	Field	Harvester	Harvest Dates	Pack Date	Lot
(b) (4)							

(b) (4) fields were identified for the implicated red onions in this leg.

(b) (4)

(b) (4) is located at (b) (4). Follow up was not conducted at this firm because it was not identified as a point of convergence.

(b) (4)

(b) (4) is located at (b) (4) . Follow up was not conducted at this firm because it was not identified as a point of convergence.

Traceback Leg 2 (Sysco Portland POS Leg)

Points-of Service:

(b) (4)

Endpoint:

- Thomson International Inc~~, LLC~~: 11220 S. Vineland Rd., Bakersfield, CA 93307-9489

(b) (4)

(b) (4)

This restaurant is located at (b) (4) . There were two lab-confirmed cases associated with this POS with illness onset dates of 06/30/2020 and 07/01/2020. The case with the earlier onset date reported eating chicken at (b) (4)

FDA Human and Animal Foods Division 6 West (Seattle District Office) worked with the Oregon Health Authority to collect records and information from the restaurant. FDA Human and Animal Foods Division 3 West (Dallas District Office) collected records related to this restaurant from Sysco (b) (4) as a part of eNSpect assignment # 167287.

(b) (4) received red onions from their distributor Sysco Portland, Inc. *(b) (4)*

FROM: Sysco Portland, Inc.
Product Description: 25 LB IMPFRSH ONION RED MED FRSH CTN

Invoice Delivery Date	Invoice #	Qty

(b) (4)

The bolded lot above was implicated because it would have been available at the restaurant within three weeks of the case patients' illness onset dates.

(b) (4)

This restaurant is located at (b) (4) . There were five lab-confirmed cases associated with this POS with meal dates of 06/30/2020 and 07/02/2020.

Sixty-nine additional probable cases were identified. One case patient with an illness onset date of 07/03/2020 reported eating carne asada and chips with salsa.

FDA Human and Animal Foods Division 6 West (Seattle District Office) worked with the Oregon Health Authority to collect records and information from the restaurant. FDA Human and Animal Foods Division 3 West (Dallas District Office) collected records related to this restaurant from Sysco (b) (4) as a part of eNSpect assignment # 167287.

(b) (4) received red onions from their distributor Sysco Portland, Inc.*(b) (4)*

FROM: Sysco Portland, Inc.
Product Description: 25 LB IMPFRSH ONION RED JMBO FRSH BOX

Invoice Delivery Date	Invoice #	Qty
(b) (4)		

The bolded lots above were implicated because they would have been available at the restaurant within two weeks of the case patients' meal dates.

(b) (4)

This long-term care facility is located at (b) (4). There were three lab-confirmed cases associated with this POS with illness onset dates of 07/08/2020 and 07/09/2020. The three cases are all residents at this long-term care facility and ate all of their meals here; a specific meal date of 07/02/2020 was provided.

FDA Human and Animal Foods Division 6 West (Seattle District Office) worked with the Oregon Health Authority to collect records and information from the long-term care facility. FDA Human and Animal Foods Division 3 West (Dallas District Office) collected records related to this long-term care facility from Sysco (b) (4)) as a part of eNSpect assignment # 167287.

(b) (4) received red onions from their distributors Sysco Portland, Inc. (*(b) (4)* and *(b) (4)*

FROM: Sysco Portland, Inc.
Product Description: 5 LB IMPFRSH ONION RED JMBO CTN

Invoice Delivery Date	Invoice #	Qty
(b) (4)		

The bolded lots above were implicated because they would have been available at the restaurant within three weeks of the case patients' illness onset dates. A single shipment of red onions was received from *(b) (4)*, but it was not implicated because it was received after the likely meal dates.

(b) (4)

This restaurant is located at (b) (4). There were two lab-confirmed cases associated with this POS with meal dates of 07/09/2020. The cases were at a catered event on 07/09/2020.

FDA Human and Animal Foods Division 6 West (Seattle District Office) worked with the Oregon Health Authority to collect records and information from the restaurant. FDA Human and Animal Foods Division 3 West (Dallas District Office) collected records related to this restaurant from Sysco (b) (4) as a part of eNSpect assignment # 167287.

(b) (4) received red onions from their distributor Sysco Portland, Inc. *(b) (4)*

FROM: Sysco Portland, Inc.
Product Description: 25 LB IMPFRSH ONION RED JMBO FRSH BOX

Invoice Delivery Date	Invoice #	Qty
(b) (4)		

The bolded lots above were implicated because they would have been available at the restaurant within three weeks of the case patients' illness onset dates.

Sysco Portland, Inc. *(b) (4)*

Sysco Portland, Inc. is located at (b) (4).

FDA Human and Animal Foods Division 3 West (Dallas District Office) collected records related to this distributor from Sysco (b) (4)], as a part of eNSpect assignment # 167287.

Sysco Portland, Inc. received red onions from Thomson International Inc. (Bakersfield, CA) via distributor Onions 52 Inc (Syracuse, UT).(b) (4) including with shipper (b) (4) or shipper (b) (4)

FROM: Onions 52 Inc
TO: (b) (4)
Product Description: US#1 Carton 25 lb Medium Red Conv Globe Type Onions Produce of USA

BOL Ship Date	Order #	Cust PO #	Qty
(b) (4)			

FROM: Onions 52 Inc
TO: (b) (4)
Product Description: US#1 Carton 25 lb Jumbo Red Conv Globe Type Onions Produce of USA

BOL Ship Date	Order #	Cust PO #	Qty
(b) (4)			

FROM: Onions 52 Inc
TO: (b) (4)
Product Description: US#1 Carton 5 lb Jumbo Red Conv Globe Type Onions Produce of USA

BOL Ship Date	Order #	Cust PO #	Qty
(b) (4)			

FROM: Onions 52 Inc
TO: (b) (4)
Product Description: US#1 Carton 25 lb Jumbo Red Conv Globe Type Onions Produce of USA

BOL Ship Date	Order #	Cust PO #	Qty
(b) (4)			

FROM: *(b) (4)*
TO: (b) (4)
Product Description: BAG RED ONIONS 25 LBS JUMBO USA

BOL Ship Date	Order #	Cust PO #	Qty
(b) (4)			

The bolded lots above were implicated because Sysco Portland, Inc. provided traceability information connecting incoming shipments from Onions 52 Inc and (b) (4) to their outgoing shipments to supply the POS.

Onions 52 Inc (Syracuse, UT) [FEI: 3016800010]

Onions 52 Inc is located at 800 S. 2000 W., Syracuse, UT 84075-6924.

FDA Human and Animal Foods Division 4 West (Denver District Office) collected information and records related to this distributor as a part of eNSpect assignment # 167509.

Onions 52 Inc (b) (4) Thomson International Inc~~, LLC~~ (Bakersfield, CA).

(b) (4)

(b) (4) is located at (b) (4) Follow up was not conducted at this firm because it was not identified as a point of convergence.

Thomson International Inc~~, LLC~~ (Bakersfield, CA) [FEI: 3004391505]

Thomson International Inc~~, LLC~~ is located at 11220 S. Vineland Rd., Bakersfield, CA 93307-9489.

FDA Human and Animal Foods Division 5 West (San Francisco District Office) and the California Department of Food and Agriculture performed an investigation with record collection and environmental sampling as a part of FACTS assignment # 12055268. FDA Office of Regulatory Affairs Produce Safety Network, FDA Human and Animal Foods Division 5 West (San Francisco District Office), the California Department of Public Health, and the California

Department of Food and Agriculture performed a root cause investigation with record collection and environmental, product, and water sampling as a part of FACTS assignment # 12055297.

Thomson International Inc~~, LLC~~ provided data in a spreadsheet that identified the growers, fields, harvester, harvest dates, pack dates, and lots for the red onions identified by the order numbers and customer purchase order numbers from implicated shipments sent to Sysco (b) (4) . Additional documentation provided by Thomson International Inc~~, LLC~~ included corrected invoices and pallet tags associated with each order, however the associated lot numbers were not consistent and not routinely managed by the firm. Thomson International Inc~~, LLC~~ identified the spreadsheet as the most accurate source of traceability information.

FOR: (b) (4)
Product Type: MR25CTN

Order #	Cust PO #	Grower	Field	Harvester	Harvest Dates	Pack Date	Lot
(b) (4)							

FOR: (b) (4)
Product Type: JR5CTN

Order #	Cust PO #	Grower	Field	Harvester	Harvest Dates	Pack Date	Lot
(b) (4)							

FOR: (b) (4)
Product Type: JR5CTN

Order #	Cust PO #	Grower	Field	Harvester	Harvest Dates	Pack Date	Lot
(b) (4)							

FOR: (b) (4)
Product Type: JR25CTN

Order #	Cust PO #	Grower	Field	Harvester	Harvest Dates	Pack Date	Lot
(b) (4)							

(b) (4) were identified for the implicated red onions in this leg.

(b) (4)

Traceback Leg 3 (Sysco Arizona POS Leg)

Point-of Service:

(b) (4)

Endpoint:

- Thomson International Inc~~, LLC~~; 11220 S. Vineland Rd., Bakersfield, CA 93307-9489

(b) (4)

This (b) (4) is located at (b) (4). There were two lab-confirmed cases associated with this POS with the same illness onset date of 07/06/2020. Exposure information was not available for either case.

FDA Human and Animal Foods Division 4 West (Denver District Office) worked with the Arizona Department of Health Services to collect records from (b) (4). FDA Human and Animal Foods Division 3 West (Dallas District Office) collected records related to this facility from Sysco (b) (4) as a part of eNSpect assignment # 167287.

(b) (4) received red onions from their distributor Sysco Arizona, Inc. *(b) (4)*

FROM: Sysco Arizona, Inc.
Product Description: 25 LB IMPFRSH ONION RED JMBO FRSH BOX

Invoice Delivery Date	Invoice #	Qty
(b) (4)		

The bolded lots above were implicated because they would have been available at (b) (4) within three weeks of the case patients' illness onset date.

Sysco Arizona, Inc. *(b) (4)* *(b) (4)*

Sysco Arizona, Inc. is located at (b) (4).

FDA Human and Animal Foods Division 3 West (Dallas District Office) collected records related to this distributor from Sysco *(b) (4)* *(b) (4)* as a part of eNSpect assignment # 167287.

Sysco Arizona, Inc. received red onions from Thomson International Inc. (Bakersfield, CA) via distributor Onions 52 Inc (Syracuse, UT), (b) (4) via Onions 52 Inc (Calipatria, CA), and Thomson International Inc. (Bakersfield, CA) via both Onions 52 Inc (Syracuse, UT) and (b) (4)

FROM: Onions 52 Inc

Product Description: US#1 Carton 25 lb Jumbo Red Conv Globe Type Onions Produce of USA

BOL Delivery Date	Order #	Cust PO #	Qty
(b) (4)			

The bolded lots above were implicated because they would have been available to supply the implicated shipments to the POS. A single shipment with red onions from (b) (4) via Onions 52 Inc (Calipatria, CA) had a delivery date (b) (4) before the first implicated shipment at (b) (4) and was not implicated. A single shipment from Thomson International Inc. (Bakersfield, CA) via both Onions 52 Inc (Syracuse, UT) and (b) (4) was delivered after the case onset date and was not implicated.

Onions 52 Inc (Syracuse, UT) [FEI: 3016800010]

Onions 52 Inc is located at 800 S. 2000 W., Syracuse, UT 84075-6924.

FDA Human and Animal Foods Division 4 West (Denver District Office) collected information and records related to this distributor as a part of eNSpect assignment # 167509.

Onions 52 Inc (b) (4) Thomson International Inc~~, LLC~~ (Bakersfield, CA).

Thomson International Inc~~, LLC~~ (Bakersfield, CA) [FEI: 3004391505]

Thomson International Inc~~, LLC~~ is located at 11220 S. Vineland Rd., Bakersfield, CA 93307-9489.

FDA Human and Animal Foods Division 5 West (San Francisco District Office) and the California Department of Food and Agriculture performed an investigation with record collection and environmental sampling as a part of FACTS assignment # 12055268. FDA Office of Regulatory Affairs Produce Safety Network, FDA Human and Animal Foods Division 5 West (San Francisco District Office), the California Department of Public Health, and the California Department of Food and Agriculture performed a root cause investigation with record collection and environmental, product, and water sampling as a part of FACTS assignment # 12055297.

Field-level information was not requested for this leg because the traceback information was not available until after the data collection at Thomson International Inc~~, LLC~~ occurred.

Traceback Leg 4 (b) (4))

Point-of Service:

- (b) (4)

Endpoints:

- (b) (4)
- Thomson International Inc~~, LLC~~; 11220 S. Vineland Rd., Bakersfield, CA 93307-9489

(b) (4)

This restaurant is located at (b) (4) There were three lab-confirmed cases associated with this POS with meal dates of 07/09/2020, 07/14/2020, and 07/15/2020. The cases reported eating grilled chicken with red onions, a hot and spicy buffalo chicken salad with red onions, and a cheeseburger with red onions, respectively.

FDA Human and Animal Foods Division 2 East (Baltimore District Office) worked with the Maryland Department of Health and the Cecil County Health Department to collect records and information from the restaurant.

(b) (4) received red onions from their distributor *(b) (4)* The restaurant indicated that it utilizes a first-in/first-out practice for its onions.

FROM: (b) (4)
Product Description: Onions Red Jumbo

Invoice Date	Invoice #	Qty
(b) (4)		

The bolded lots above were implicated because they would have been available at the restaurant within two weeks of the case patients' meal dates.

(b) (4)

(b) (4) is located at (b) (4) .

FDA Human and Animal Foods Division 2 East (New Jersey District Office) collected records from this distributor.

(b) (4) received red onions from (b) (4) and (b) (4) . The firm indicated that it works with a broker and receives its onions from various suppliers at the (b) (4) The firm purchases the red onions from these suppliers and delivers them to its customers the same day.

FROM: (b) (4)
Product Description: Red Onions

Spreadsheet Purchase Date	Brand
(b) (4)	

FROM: (b) (4)
Product Description: Onion Red Jumbo-25 LB.U.S.A.

Invoice Date	Ticket #	Brand	Qty
(b) (4)			

***brand not listed

The bolded lots above were implicated because (b) (4) purchased from these suppliers and delivered them to the point-of-service on the same day as implicated shipments.

(b) (4)

(b) (4) is located at (b) (4) . Follow up was not conducted at this firm because it was not identified as a point of convergence.

(b) (4)

(b) (4) is located at (b) (4)

FDA Human and Animal Foods Division 2 East (Baltimore District Office) collected records from (b) (4)

(b) (4) received jumbo red onions via (b) (4) does not come into possession of the onions) and indicated which of these shipments were used to fill shipments to (b) (4) brand red onions were from (b) (4)

VIA (b) (4)
Product Description: 25 LB. US#1 JUMBO RED ONIONS

BOL Delivery Date	Invoice #	Brand	Qty
(b) (4)			

The bolded lots above were implicated because (b) (4) . indicated that they were used to fill the implicated shipments sent to (b) (4) brand filled the (b) (4) invoice shipment and the (b) (4) and (b) (4) invoice shipments to (b) (4) brand onions are packaged by Thomson International Inc~~, LLC~~ (Bakersfield, CA).

FROM: (b) (4)
Product Description: Onions 25# Jumbo Red US #1 Onions

Invoice Date	Invoice #	Qty
(b) (4)		

(b) (4)

(b) (4) is located at (b) (4) .

(b) (4) and did not have possession of the onions. The (b) (4) red onions were sourced (b) (4)

(b) (4)

(b) (4) is located at (b) (4)

(b) (4) is a customer of Onions 52 Inc (Syracuse, UT) and received onions that were a part of Thomson International Inc~~, LLC~~'s recall related to this investigation.

Onions 52 Inc (Syracuse, UT) [FEI: 3016800010]

Onions 52 Inc is located at 800 S. 2000 W., Syracuse, UT 84075-6924.

Onions 52 Inc (b) (4) Thomson International Inc~~, LLC~~ (Bakersfield, CA).

Thomson International Inc~~, LLC~~ (Bakersfield, CA) [FEI: 3004391505]

Thomson International Inc~~, LLC~~ is located at 11220 S. Vineland Rd., Bakersfield, CA 93307-9489.

FDA Human and Animal Foods Division 5 West (San Francisco District Office) and the California Department of Food and Agriculture performed an investigation with record collection and environmental sampling as a part of FACTS assignment # 12055268. FDA Office of Regulatory Affairs Produce Safety Network, FDA Human and Animal Foods Division 5 West

(San Francisco District Office), the California Department of Public Health, and the California Department of Food and Agriculture performed a root cause investigation with record collection and environmental, product, and water sampling as a part of FACTS assignment # 12055297.

Lot information was not identified for the implicated onions from this leg of traceback. The implicated shipment in this leg was identified after relevant records were requested from Onions 52 Inc and Thomson International Inc~~, LLC~~.

Additional Traceback and Traceforward Information

The above four legs of traceback were performed on the confirmed vehicle of red onions. Exposures to other colors of onions were identified by CDC and state partners. The California Department of Public Health and the Michigan Department of Agriculture & Rural Development performed traceback of yellow onions for seven points-of-service.

The California Department of Public Health traced onions (red and yellow) from (b) (4) had seven confirmed cases, (b) (4) had three confirmed cases, (b) (4) had three confirmed cases, and (b) (4) had three confirmed cases. (b) (4) received yellow onions that were sourced (b) (4) and Thomson brand yellow onions from Onions 52. (b) (4) received yellow onions that were sourced (b) (4) *(b) (4)* *(b) (4)* and Onions 52. (b) (4) received yellow onions that were sourced (b) (4), Onions 52, and (b) (4) received yellow onions that were sourced (b) (4) *(b) (4)* and red onions that were sourced (b) (4)). The traceback for these legs was limited by recordkeeping, especially at the level of the suppliers to the points-of-service.

The Michigan Department of Agriculture & Rural Development traced yellow onions from (b) (4) had three confirmed cases, (b) (4)) had two confirmed cases, and (b) (4)) had six confirmed cases. (b) (4) received yellow onions that were sourced (b) (4), and Thomson International (Bakersfield, CA) via Onions 52. (b) (4) received yellow onions that were sourced back to Thomson International (Bakersfield, CA) via Onions 52. (b) (4) received yellow onions that were sourced back to (b) (4) customer of Onions 52).

Through the recall audit check procedures, traceforward information was obtained describing customer lists that received recalled onions. A traceforward product flow diagram was produced showing Thomson International Inc~~, LLC~~'s direct customers, as well as the supply chains for the four legs of red onion traceback, and the yellow onion tracebacks performed by the California Department of Public Health and the Michigan Department of Agriculture & Rural

Development. The points-of-service identified in the traceforward product flow diagram indicate if red and/or yellow onions sourced from Thomson International Inc~~, LLC~~ were known to have been supplied at some time; this does not indicate if the onions were the onions that were consumed by the cases, just known distribution. Additional grocery companies identified in the recall audit check and downstream recalls included: ALDI, Food Lion, Giant Food, Hello Fresh, Imperfect Foods, Kroger, Publix Super Markets, Stop & Shop, Walmart, and WinCo.

Conclusion

The traceback investigation identified four legs of distribution for red onions served (b) (4) . Thomson International Inc (Bakersfield, CA) was identified as the source of the red onions based on convergence of the legs of traceback. Additional information from traceback investigations performed by the Canadian Food Inspection Agency, the California Department of Public Health and the Michigan Department of Agriculture & Rural Development support this conclusion

Limitations

This traceback investigation was limited by the exposure information provided by cases in identified clusters, the size of illness clusters identified, limited supply chain diversity identified, and lack of adequate recordkeeping. Epidemiologic information regarding case exposures was limited when cases were unable to recall the type of onions consumed. The majority of the clusters, nine of ten, were less than four cases per point-of-service. Three of the four legs of red onion traceback were through various Sysco distribution centers and did represent a broader diversity of supply chains.

Records were not available or were incomplete at some points along the distribution chains: (b) (4) did not identify Sysco as a supplier, but later records from Sysco identified it as such; records at Thomson International Inc~~, LLC~~ for field level information were known to be incorrect and information used in this traceback was the best information that the firm could identify.

Attachments

Traceback Timeline

Master & Detailed Traceback and Traceforward Diagrams

Appendix B: Red onion exposures and details based on exposures reported by confirmed cases, purchase records and restaurant/retirement residence menus and invoices (includes cases who answered red onion question, were part of a cluster, or reported a meal at a restaurant supplied by Sysco)

Case ID	Onset	Collection	Reported Red Onion Exposure	Cluster Case	Cluster Name	Cluster Role	Date of Cluster Meal	Cluster Supplied by Sysco	Restaurant Name (non-cluster)	Restaurant Meal Contained Red Onions	Restaurant Supplied Red Onions by Sysco
Retirement Residence Clusters **Note BC-29 is a resident of (b) (4) and also reported restaurant exposures											
BC-29		2020-07-13	Y	Yes	(b) (4)	Resident		(b) (4)	(b) (4)		(b) (4)
BC-29		2020-07-13	Y	Yes		Resident					
AB-32	2020-07-02	2020-07-08		Yes		Resident					
AB-33	2020-06-15	2020-07-11		Yes		Resident					
AB-31	2020-07-01	2020-07-01		Yes		Resident					
BC-07	2020-07-13	2020-07-13		Yes		Resident					
BC-25	2020-07-09	2020-07-14		Yes		Resident					
AB-47	2020-07-07	2020-07-07		Yes		Resident					
AB-56	2020-07-05	2020-07-10		Yes		Resident					
AB-45	2020-07-08	2020-07-08		Yes		Resident					
AB-26	2020-06-27	2020-06-29		Yes		Resident					
AB-27	2020-06-25	2020-06-30		Yes		Resident					
AB-28	2020-06-24	2020-06-29		Yes		Resident					
AB-29	2020-07-04	2020-07-06		Yes		Resident					
AB-30	2020-06-22	2020-06-29		Yes		Resident					
BC-06	2020-07-09	2020-07-11		Yes		Resident					
AB-42	2020-07-02	2020-07-06		Yes		Resident					
AB-43	2020-07-04	2020-07-07		Yes		Resident					
AB-34	2020-06-30	2020-07-03		Yes		Staff					
Restaurant Clusters											
AB-64	2020-07-07	2020-07-10	Y	Yes		Patron	2020-07-04				
AB-65	2020-07-09	2020-07-10		Yes		Patron	2020-07-04				
AB-63	2020-07-07	2020-07-08	P	Yes		Staff	2020-07-02				
ON-02	2020-07-11		Y	Yes		Patron	2020-07-08				
BC-18	2020-07-04	2020-07-06		Yes		Patron	2020-06-28				

Case ID	Onset	Collection	Reported Red Onion Exposure	Cluster Case	Cluster Name	Cluster Role	Date of Cluster Meal	Cluster Supplied by Sysco	Restaurant Name (non-cluster)	Restaurant Meal Contained Red Onions	Restaurant Supplied Red Onions by Sysco
BC-21	2020-07-01	2020-07-04	Y	Yes	(b) (4)	Patron	2020-06-28	(b) (4)	(b) (4)		(b) (4)
AB-113	2020-06-30	2020-06-30	Y	Yes		Patron	2020-06-27				
AB-15	2020-06-29	2020-07-02	DK	Yes		Patron	2020-06-27				
AB-16	2020-07-02	2020-07-06	Y	Yes		Patron	2020-06-30				
AB-84	2020-06-30	2020-07-02	Y	Yes		Patron	2020-06-26				
AB-61	2020-06-28	2020-07-07		Yes		Patron	2020-06-27				
AB-62	2020-07-04	2020-07-08	Y	Yes		Staff					
AB-75	2020-07-01	2020-07-04	Y	Yes		Patron	2020-06-30				
AB-104	2020-07-03	2020-07-06	Y	Yes		Staff	2020-07-01				
AB-76	2020-06-30	2020-07-04	Y	Yes		Patron	2020-06-24				
BC-12	2020-07-02	2020-07-10	Y	Yes		Patron					
BC-15	2020-07-01	2020-07-08	Y	Yes		Patron					
BC-13	2020-07-02	2020-07-10	Y	Yes		Patron	2020-06-28				
BC-26	2020-07-07	2020-07-13		Yes		Patron	2020-06-28				
AB-70	2020-07-06	2020-07-09		Yes		Patron	2020-07-03				
AB-70	2020-07-06	2020-07-09		Yes		Patron	2020-07-03				
AB-107	2020-07-03	2020-07-06	P	Yes		Patron	2020-06-29				
AB-116	2020-07-02	2020-07-05	Y	Yes		Patron	2020-06-30				
Non-Cluster Cases with Red Onion Exposure Information											
SK-04	2020-07-10		Y							Y	
BC-17	2020-06-30	2020-07-08									
BC-24	2020-06-28	2020-07-04	Y							Y	
BC-41	2020-07-07		P								
MB-06	2020-07-05		DK								
MB-09	2020-07-10		Y							Y	
ON-01	2020-07-06	2020-07-06	Y							Y	

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Case ID	Onset	Collection	Reported Red Onion Exposure	Cluster Case	Cluster Name	Cluster Role	Date of Cluster Meal	Cluster Supplied by Sysco	Restaurant Name (non-cluster)	Restaurant Meal Contained Red Onions	Restaurant Supplied Red Onions by Sysco
MB-09	2020-07-10		Y						(b) (4)	Y	(b) (4)
AB-86	2020-06-27	2020-07-30	Y							Y	
AB-117	2020-07-06	2020-07-06									
AB-82	2020-06-29	2020-07-01	Y							Y	
AB-114	2020-07-07	2020-07-07	Y							Y	
MB-06	2020-07-05		DK								
BC-14	2020-07-06	2020-07-09	Y							Y	
BC-51		2020-07-17									
BC-49	2020-07-10	2020-07-15	Y							Y	
AB-109	2020-07-08	2020-07-09	Y							Y	
BC-40	2020-07-18										
MB-03	2020-07-05		Y							Y	
BC-49	2020-07-10	2020-07-15	Y							Y	
BC-09	2020-07-05	2020-07-09	Y							Y	
AB-90	2020-06-26	2020-06-29	P								
BC-23	2020-06-30	2020-07-07									
MB-05	2020-07-10										
BC-14	2020-07-06	2020-07-09	Y							Y	
MB-07	2020-07-05		Y							Y	
AB-87	2020-06-22	2020-06-30	Y							Y	
BC-41	2020-07-07		P								
AB-89	2020-06-26	2020-07-05									
MB-01	2020-07-03		Y							Y	
BC-03	2020-07-05	2020-07-08									
AB-80	2020-07-02	2020-07-03									

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Case ID	Onset	Collection	Reported Red Onion Exposure	Cluster Case	Cluster Name	Cluster Role	Date of Cluster Meal	Cluster Supplied by Sysco	Restaurant Name (non-cluster)	Restaurant Meal Contained Red Onions	Restaurant Supplied Red Onions by Sysco
AB-90	2020-06-26	2020-06-29	P						(b) (4)		(b) (4)
AB-03	2020-07-08										
BC-04	2020-07-09	2020-07-12	DK								
AB-01	2020-06-24	2020-06-25	P								
AB-81	2020-07-01	2020-07-02	P								
BC-05	2020-07-03	2020-07-09	P								
AB-106	2020-07-02	2020-07-07	Y								
AB-79	2020-07-01	2020-07-03	Y								
AB-85	2020-07-01	2020-07-03	Y								
BC-19	2020-06-30	2020-07-03	Y								
MB-14	2020-07-14		Y								

Appendix B: "Most likely" onion exposure for each confirmed case with sufficient information; including details of exposure location, variety of onions, purchase records, and links to Thomson International

natid	Type	Reported Exposure	Store / Facility Name	Supplier	Purchase records available	Appears on purchase records	Links to Thomson	Address	Date	Raw/ Cooked	Cluster	Cluster Role
Confirmed cases with most likely onion exposure at a residential facility												
AB-58	Red	M	(b) (4)				Y	(b) (4)			Y	Resident
BC-29	Red	Y					Y				Y	Resident
BC-86	Red	M					Y				Y	Resident
AB-20	Red	M					Y				Y	Resident
AB-32	Red	M					Y				Y	Resident
AB-33	Red	M					Y				Y	Resident
AB-34	Red	M					Y				Y	Staff
AB-35	Red	M					Y				Y	Resident
AB-21	Red	M					Y				Y	Resident
AB-37	Red	M					Y				Y	Resident
PE-01	Other	P					Y			Cooked		Staff
AB-181	Other	DK					Y					Resident
AB-36	Red	M					Y				Y	Resident
AB-31	Red	M					Y				Y	Resident
BC-07	Red	M					Y				Y	Resident
BC-25	Red	M					Y				Y	Resident
BC-87	Other	DK					Y			Raw		Staff
AB-12	Red	M					Y				Y	Resident
AB-13	Red	M					Y				Y	Resident
AB-47	Red	M					Y				Y	Resident

natid	Type	Reported Exposure	Store / Facility Name	Supplier	Purchase records available	Appears on purchase records	Links to Thomson	Address	Date	Raw/ Cooked	Cluster	Cluster Role
AB-48	Red	M	(b) (4)				Y	(b) (4)			Y	Resident
AB-49	Red	M					Y				Y	Resident
AB-50	Red	M					Y				Y	Resident
AB-51	Red	M					Y				Y	Resident
AB-52	Red	M					Y				Y	Resident
AB-53	Red	M					Y				Y	Resident
AB-54	Red	M					Y				Y	Resident
AB-55	Red	M					Y				Y	Resident
AB-56	Red	M					Y				Y	Resident
AB-57	Red	M					Y				Y	Resident
AB-121	Red	M					Y				Y	Staff
AB-41	Red	DK					Y				Y	Staff
AB-39	Red	M					Y				Y	Staff
AB-128	Red	M					Y				Y	Resident
AB-45	Red	M					Y				Y	Resident
AB-46	Red	M					Y				Y	Resident

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natid	Type	Reported Exposure	Store / Facility Name	Supplier	Purchase records available	Appears on purchase records	Links to Thomson	Address	Date	Raw/ Cooked	Cluster	Cluster Role
AB-17	Red	M	(b) (4)				Y	(b) (4)			Y	Resident
AB-18	Red	M					Y				Y	Staff
AB-26	Red	M					Y				Y	Resident
AB-27	Red	M					Y				Y	Resident
AB-28	Red	M					Y				Y	Resident
AB-29	Red	M					Y				Y	Resident
AB-30	Red	M					Y				Y	Resident
AB-22	Red	M					Y				Y	Resident
AB-23	Red	M					Y				Y	Resident
AB-24	Red	M					Y				Y	Resident
AB-40	Red	M					Y				Y	Resident
BC-06	Red	M					Y				Y	Resident
AB-38	Red	M					Y				Y	Resident
AB-19	Red	M					Y				Y	Resident
AB-42	Red	M					Y				Y	Resident
AB-43	Red	M					Y				Y	Resident
AB-44	Red	M					Y				Y	Resident
Confirmed cases with most lik												
ON-03	Red	M							2020-07-11			

natid	Type	Reported Exposure	Store / Facility Name	Supplier	Purchase records available	Appears on purchase records	Links to Thomson	Address	Date	Raw/ Cooked	Cluster	Cluster Role
AB-08	White	Y	(b) (4)					(b) (4)		Raw		
AB-112	White	Y								Raw		
BC-11	White	Y							2020-06-28	Raw		
BC-64	White	Y								Raw		
BC-41	Other	M					Y		2020-07-04			
AB-179	Red	Y					Y			Raw	Y	Patron
SK-04	Red	Y					Y		2020-07-07	Raw		
BC-61	Other	DK					Y					
BC-24	Red	Y							2020-06-28	Raw	Y	Patron
BC-17	Red	DK					Y					
BC-80	Red	Y					Y		2020-07-14	Raw		
AB-201	Red	Y					Y		2020-07-06	Raw		
AB-01	Other	DK					Y					
AB-152	Red	DK					Y					
AB-183	Other	DK					P					
AB-63	Red	M					Y		2020-07-02		Y	Staff
AB-64	Red	Y					Y		2020-07-04	Raw	Y	Patron
AB-65	Other	DK					Y		2020-07-04			
MB-02	Other	N					Y					
MB-08	Other	DK					P					
MB-09	Red	Y					Y		2020-07-05			
MB-12	Red	DK										
ON-01	Red	Y					Y		2020-06-30	Raw	Y	Patron
ON-02	Red	Y					Y		2020-07-08		Y	Patron
BC-18	Red	M					Y		2020-06-28		Y	Patron

natid	Type	Reported Exposure	Store / Facility Name	Supplier	Purchase records available	Appears on purchase records	Links to Thomson	Address	Date	Raw/ Cooked	Cluster	Cluster Role
BC-21	Red	M	(b) (4)				Y	(b) (4)	2020-06-28	Raw	Y	Patron
AB-171	Red	Y							2020-07-10	Raw		
AB-173	Other	DK					Y					
AB-86	Red	Y					Y		2020-06-26	Raw		
SK-09	Other	DK					Y					
AB-142	Other	DK					Y					
AB-59	Red	DK					Y		2020-07-02			
AB-60	Red	M					Y		2020-07-04		Y	Patron
BC-69	White	Y					Y			Raw		
AB-134	Other	DK					Y					
BC-85	Other	DK					Y					
AB-114	Red	Y					Y					
AB-78	Red	Y					Y		2020-07-28	Raw		
AB-82	Red	Y					Y		2020-06-28	Raw		
AB-88	Other	DK					Y					
BC-79	Red	Y					Y			Raw	Y	Patron
Ab-113	Red	Y					Y		2020-06-27		Y	Patron
AB-15	Red	DK					Y		2020-06-27	Raw	Y	Patron
AB-16	Red	Y					Y		2020-06-30	Raw	Y	Patron
AB-84	Red	M					Y		2020-06-26		Y	Patron
QC-03	White	M					Y			Raw		
MB-06	White	M					Y			Raw		
SK-02	White	N					Y		2020-07-13			

natid	Type	Reported Exposure	Store / Facility Name	Supplier	Purchase records available	Appears on purchase records	Links to Thomson	Address	Date	Raw/ Cooked	Cluster	Cluster Role
QC-04	Red	Y	(b) (4)					(b) (4)				
AB-184	Red	Y					Y		2020-07-11	Raw		
SK-05	Red	P										
BC-51	Other	DK					Y		2020-07-12			
BC-28	White	P					Y		2020-07-09	Cooked		
AB-25	Other	DK					Y		2020-07-13		Y	Patron
AB-61	Red	DK					Y		2020-06-27		Y	Patron
AB-62	Other	N					Y		2020-06-27		Y	Staff
AB-196	Red	Y							2020-07-04	Raw		
AB-119	Red	Y					Y		2020-07-05	Raw		
AB-159	Red	Y					Y		2020-07-07	Raw		
BC-89	White	DK					Y			Cooked		
BC-49	Red	Y					Y		2020-07-03	Raw		
SK-07	Red	Y					Y		2020-07-16	Raw		
AB-77	White	Y					Y			Cooked		
AB-109	Red	Y							2020-06-29			
BC-53	Red	P							2020-07-14	Raw		
AB-06	Other	DK					Y					
BC-04	Red	M										
BC-33	Red	P					Y			Raw		
BC-40	Red	P					Y		2020-07-18	Raw		
BC-60	White	P							2020-07-17			
AB-72	Other	Y							2020-07-07	Raw		
AB-75	Red	Y					Y		2020-06-30	Raw	Y	Patron
AB-104	Red	Y					Y		2020-07-01	Raw	Y	Staff
AB-180	Other	DK					P					

natid	Type	Reported Exposure	Store / Facility Name	Supplier	Purchase records available	Appears on purchase records	Links to Thomson	Address	Date	Raw/ Cooked	Cluster	Cluster Role
MB-03	Red	Y	(b) (4)				Y	(b) (4)	2020-07-03	Raw		
AB-210	Red	Y					Y		2020-07-12	Raw	Y	Patron
AB-211	Red	Y					Y		2020-07-13	Raw	Y	Patron
AB-124	Red	Y					Y			Raw	Y	Patron
AB-136	Red	Y					Y		2020-07-06	Raw	Y	Patron
AB-150	Red	DK					Y					
AB-209	Red	Y					Y		2020-07-19	Raw	Y	
BC-09	Red	Y					Y			Raw		
SK-19	Red	M					Y		2020-07-11	Raw	Y	Patron
AB-141	Red	Y					Y			Raw	Y	Patron
AB-76	Red	M					Y		2020-06-24	Raw	Y	Patron
AB-140	Red	Y					Y			Raw	Y	Patron
AB-90	Other	Y					Y		2020-06-24			
BC-23	Other	DK					Y		2020-06-27			
MB-05	Other	M					Y		2020-07-08			
BC-73	Red	Y					Y					
BC-76	Other	N					P					
AB-118	Other	P					Y		2020-07-11			
AB-147	Red	Y							2020-07-05	Raw		
BC-14	Red	Y					Y			Raw	Y	Patron
BC-65	Red	Y					Y		2020-07-15	Raw		

natid	Type	Reported Exposure	Store / Facility Name	Supplier	Purchase records available	Appears on purchase records	Links to Thomson	Address	Date	Raw/ Cooked	Cluster	Cluster Role
MB-07	Red	Y	(b) (4)				Y	(b) (4)	2020-07-07			
AB-87	Red	Y					Y		2020-06-20	Raw		
QC-01	White	Y								Cooked		
BC-12	Red	Y					Y		2020-07-01	Cooked	Y	Patron
BC-15	Red	P					Y		2020-07-01		Y	Patron
AB-89	Other	DK					Y					
AB-153	Red	Y								Raw		
AB-218	Red	Y							2020-07-10	Raw		
AB-221	Red	Y								Raw		
AB-230	Red	Y							2020-07-13	Raw		
BC-67	Red	Y										
MB-01	Red	Y							2020-06-26	Raw		
AB-132	Red	Y					Y		2020-07-04	Raw	Y	Patron
AB-143	Red	DK					Y				Y	Patron
AB-66	Red	Y					Y		2020-07-05	Raw	Y	Patron
AB-67	Other	DK					Y		2020-07-05		Y	Patron
AB-68	Other	DK					Y		2020-07-05		Y	Patron
AB-69	Red	Y					Y		2020-07-04	Raw	Y	Patron
AB-74	Red	M					Y		2020-07-05	Raw	Y	Patron
BC-13	Red	Y					Y		2020-06-28	Raw	Y	Patron
BC-26	White	P					Y		2020-06-28	Raw	Y	Patron
BC-47	Other	DK					Y					
BC-03	Other	DK					Y					
AB-145	Red	Y								Raw		
BC-78	Red	Y					Y		2020-07-16	Raw		
AB-80	Other	N					Y					

natid	Type	Reported Exposure	Store / Facility Name	Supplier	Purchase records available	Appears on purchase records	Links to Thomson	Address	Date	Raw/ Cooked	Cluster	Cluster Role
MB-14	Red	P	(b) (4)				Y	(b) (4)	2020-07-11	Raw		
AB-133	Red	Y							2020-08-17	Raw	Y	Patron
AB-70	Other	DK					Y		2020-07-03		Y	Patron
AB-71	Red	Y					Y		2020-07-06	Raw	Y	Patron
SK-01	Other	P					Y		2020-07-06	Cooked		
BC-56	Red	P					Y			Cooked	Y	Patron
BC-70	White	Y								Raw	Y	Patron
BC-81	Red	Y					Y				Y	Patron
BC-38	Red	Y										
AB-107	Red	M							2020-06-29		Y	Patron
AB-116	Red	Y					Y		2020-06-30	Raw	Y	Patron
BC-72	Red	Y					Y		2020-07-10	Raw		
BC-71	Red	Y					Y					
AB-07	Other	P					Y		2020-07-02			
AB-222	White	Y							2020-07-08	Raw		
AB-233	Red	Y							2020-07-12	Raw		
BC-57	Other	DK					Y		2020-07-12			
AB-225	White	Y										
Confirmed cases with "most li												
AB-227	Red	Y										
AB-229	Red	Y								Raw		
QC-02	Other	Y								Cooked		
AB-106	Red	Y								Cooked		
AB-224	White	Y								Raw		

natid	Type	Reported Exposure	Store / Facility Name	Supplier	Purchase records available	Appears on purchase records	Links to Thomson	Address	Date	Raw/ Cooked	Cluster	Cluster Role
AB-79	Red	Y	(b) (4)					(b) (4)				
AB-81	Red	Y								Raw		
AB-85	Red	Y										
BC-68	Red	Y							2020-07-12	Raw		
AB-178	Red	Y										
AB-234	Red	P										
BC-08	Red	DK			Y	Y						
BC-16	Red	DK			Y	Y			2020-06-04			
BC-19	White	DK			Y	Y			2020-06-20			
BC-31	Red	Y			Y	Y			2020-06-26			
BC-32	Red	Y							2020-05-14			
BC-45	Other	DK			Y	Y			2020-05-12			
BC-63	Red	Y			Y	N						
BC-74	Red	Y			Y	Y			2020-07-17	Raw		
BC-77	Red	Y										
BC-88	Red	Y			N		Y			Raw		
MB-11	White	Y								Raw		
BC-75	White	Y								Cooked		
BC-66	White	P										
BC-84	Red	DK										
SK-03	Red	Y							2020-07-02	Raw		
SK-06	Other	DK										
AB-226	Red	Y							2020-07-15	Raw		
BC-05	Red	M					Y			Raw		

Appendix B: "Most likely" onion exposure for each confirmed case with sufficient information; including details of exposure location, variety of onions, purchase records, and links to Thomson International

National ID	Type	Reported exposure	Store / Facility Name	Supplier	Purchase records available	Appears on purchase records	Links to Thomson	Address	Date	Raw/Cooked	Cluster	Cluster Role
Confirmed cases with most likely onion exposure at a residential facility												
AB-58	Red	M	(b) (4)				Y	(b) (4)			Y	Resident
BC-29	Red	Y					Y				Y	Resident
BC-86	Other	DK					Y				Y	Resident
AB-20	Red	M					Y				Y	Resident
AB-32	Red	DK					Y				Y	Resident
AB-33	Red	M					Y				Y	Resident
AB-34	Red	M					Y				Y	Staff
AB-35	Red	M					Y				Y	Resident
AB-21	Red	M					Y				Y	Resident
AB-37	Red	M					Y				Y	Resident
PE-01	Other	P					Y			Cooked	Y	Staff
AB-181	Other	DK					Y					
AB-36	Red	M					Y				Y	Resident
AB-31	Red	M					Y				Y	Resident
BC-44	Other	DK					Y				Y	Resident

Appendix B: "Most likely" onion exposure for each confirmed case with sufficient information; including details of exposure location, variety of onions, purchase records, and links to Thomson International

BC-07	Red	M	(b) (4)			Y	(b) (4)			Y	Resident
BC-25	Red	M				Y				Y	Resident
BC-35	Red	DK				Y				Y	Resident
BC-87	Other	DK				Y			Raw	Y	Staff
AB-12	Red	M				Y				Y	Resident
AB-13	Red	M				Y				Y	Resident
AB-47	Red	M				Y				Y	Resident
AB-48	Red	M				Y				Y	Resident
AB-49	Red	M				Y				Y	Resident
AB-50	Red	M				Y				Y	Resident
AB-51	Red	M				Y				Y	Resident
AB-52	Red	M				Y				Y	Resident
AB-53	Red	M				Y				Y	Resident
AB-54	Red	M				Y				Y	Resident
AB-55	Red	DK				Y				Y	Resident
AB-56	Red	M				Y				Y	Resident
AB-57	Red	M				Y				Y	Resident

Appendix B: "Most likely" onion exposure for each confirmed case with sufficient information; including details of exposure location, variety of onions, purchase records, and links to Thomson International

AB-198	White	P	(b) (4)			Y	(b) (4)						
AB-121	Red	M										Y	Resident
AB-41	Red	DK										Y	Staff
AB-39	Red	M				Y						Y	Staff
AB-128	Red	M				Y						Y	Resident
AB-45	Red	M				Y						Y	Resident
AB-46	Red	M				Y						Y	Resident
AB-17	Red	M				Y						Y	Resident
AB-18	Red	M				Y						Y	Staff
AB-26	Red	DK				Y						Y	Resident
AB-27	Red	M				Y						Y	Resident
AB-28	Red	M				Y						Y	Resident
AB-29	Red	DK				Y						Y	Resident
AB-30	Red	DK				Y						Y	Resident
AB-22	Red	M				Y						Y	Resident
AB-23	Red	DK				Y						Y	Resident
AB-24	Red	M				Y						Y	Resident

Appendix B: "Most likely" onion exposure for each confirmed case with sufficient information; including details of exposure location, variety of onions, purchase records, and links to Thomson International

AB-40	Red	M	(b) (4)			Y	(b) (4)			Y	Resident
BC-06	Red	M				Y				Y	Resident
AB-38	Red	M				Y				Y	Resident
AB-19	Red	M				Y				Y	Resident
AB-42	Red	M				Y				Y	Resident
AB-43	Red	M				Y				Y	Resident
AB-44	Red	M				Y				Y	Resident
Confirmed cases with most like											
ON-03	Red	M						2020-07-11			
AB-08	White	Y							Raw		
AB-112	White	Y							Raw		
BC-101	Red	Y									
BC-11	White	Y						2020-06-28	Raw		
BC-95	White	Y						2020-07-26	Raw		
BC-98	Red	Y									
BC-41	Other	M				Y		2020-07-04			
MB-17	Red	P				Y		2020-07-11	Cooked		
AB-179	Red	Y				Y			Raw	Y	Patron
SK-21	Red	M				Y		2020-07-06	Raw	Y	Patron
SK-22	Red	P				Y		2020-07-06	Raw	Y	Patron
SK-24	Red	Y				Y		2020-07-13		Y	Patron

Appendix B: "Most likely" onion exposure for each confirmed case with sufficient information; including details of exposure location, variety of onions, purchase records, and links to Thomson International

SK-04	Red	Y	(b) (4)			Y	(b) (4)	2020-07-07	Raw		
BC-61	Other	DK				Y					
BC-24	Red	Y						2020-06-28	Raw	Y	Patron
BC-17	Red	DK				Y					
BC-80	Red	Y				Y		2020-07-14	Raw		
AB-201	Red	Y				Y		2020-07-06	Raw		
AB-119	Red	Y				Y		2020-07-05	Raw		
AB-63	Red	M				Y		2020-07-02		Y	Staff
AB-64	Red	Y				Y		2020-07-04	Raw	Y	Patron
AB-65	Other	DK				Y		2020-07-04		Y	Patron
AB-01	Other	DK									
AB-152	Red	DK									
AB-183	Other	DK									
AB-282	Red	M				Y		2020-07-07	Raw		
BC-36	Other	DK						2020-07-10			
MB-02	Other	N				Y					
MB-08	Other	DK									
MB-09	Red	Y				Y		2020-07-05			
MB-12	Red	DK									
SK-30	Red	P				Y		2020-07-17			
ON-01	Red	Y				Y		2020-06-30	Raw	Y	Patron
ON-02	Red	Y				Y		2020-07-08		Y	Patron
BC-18	Red	M				Y		2020-06-28		Y	Patron
BC-21	Red	M				Y		2020-06-28	Raw	Y	Patron
AB-171	Red	Y						2020-07-10	Raw		

Appendix B: "Most likely" onion exposure for each confirmed case with sufficient information; including details of exposure location, variety of onions, purchase records, and links to Thomson International

BC-08	Red	DK	(b) (4)			Y	(b) (4)				
ON-04	Red	Y				Y		2020-07-12			
AB-86	Red	Y				Y		2020-06-26	Raw		
SK-09	Other	DK				Y					
AB-142	Other	DK				Y					
AB-60	Red	M				Y		2020-07-04		Y	Patron
AB-149	Other	DK				Y		2020-06-08			
AB-59	Red	DK				Y		2020-07-02			
BC-69	White	Y				Y			Raw		
AB-134	Other	DK				Y					
BC-64	Red	Y				N		2020-07-15			
BC-85	Other	DK				Y					
ON-09	White	Y							Cooked		
AB-114	Red	Y				Y					
AB-78	Red	Y				Y		2020-07-28	Raw		
AB-82	Red	Y				Y		2020-06-28	Raw		
AB-88	Other	DK				Y					
BC-79	Red	Y				Y			Raw	Y	Patron
Ab-113	Red	Y				Y		2020-06-27		Y	Patron
AB-15	Red	DK				Y		2020-06-27	Raw	Y	Patron
AB-16	Red	Y				Y		2020-06-30	Raw	Y	Patron
AB-84	Red	M				Y		2020-06-26		Y	Patron
QC-03	Other	DK				Y			Raw		
MB-06	White	M				Y			Raw		

Appendix B: "Most likely" onion exposure for each confirmed case with sufficient information; including details of exposure location, variety of onions, purchase records, and links to Thomson International

AB-212	White	Y	(b) (4)			Y	(b) (4)	2020-07-05	Raw		
SK-02	White	N				Y		2020-07-13			
QC-04	Red	Y									
BC-39	Red	P				Y		2020-07-08	Cooked		
AB-184	Red	Y				Y		2020-07-11	Raw		
BC-51	Other	DK				P		2020-07-12			
SK-05	Red	P									
BC-28	White	P				Y		2020-07-09	Cooked		
AB-242	White	Y							Raw		
AB-25	Other	DK				Y		2020-07-13		Y	Patron
AB-61	Red	DK				Y		2020-06-27		Y	Patron
AB-62	Other	N				Y		2020-06-27		Y	Staff
AB-196	Red	Y						2020-07-04	Raw		
AB-159	Red	Y				Y		2020-07-07	Raw		
AB-251	Red	DK				Y		2020-07-10			
BC-49	Red	Y						2020-07-03	Raw		
AB-223	Red	M				Y			Raw		
SK-16	Red	P				Y				Y	Patron
SK-07	Red	Y				Y		2020-07-16	Raw		
AB-77	White	Y				Y			Cooked		
AB-109	Red	Y				Y		2020-06-29			
BC-53	Red	P						2020-07-14	Raw		
AB-06	Other	DK				Y					
BC-99	White	Y				Y		2020-07-26	Raw		

Appendix B: "Most likely" onion exposure for each confirmed case with sufficient information; including details of exposure location, variety of onions, purchase records, and links to Thomson International

AB-253	Red	Y	(b) (4)			Y	(b) (4)		Raw		
BC-04	Red	M									
BC-33	Red	P				Y			Raw		
BC-40	Red	P				Y		2020-07-18	Raw		
BC-60	White	P						2020-07-17			
AB-72	Other	Y						2020-07-07	Raw		
AB-75	Red	Y				Y		2020-06-30	Raw	Y	Patron
AB-104	Red	Y				Y		2020-07-01	Raw	Y	Staff
AB-180	Red	Y				Y		2020-07-10			
MB-03	Red	Y				Y		2020-07-03	Raw		
AB-210	Red	Y				Y		2020-07-12	Raw	Y	Resident
AB-211	Red	Y				Y		2020-07-13	Raw	Y	Patron
AB-178	Other	DK				Y		2020-07-09	Raw		
AB-232	Other	P				Y					
BC-96	Red	Y									
AB-136	Red	Y				Y		2020-07-06	Raw	Y	Patron
AB-209	Red	Y				Y		2020-07-19	Raw	Y	Patron
AB-150	Red	DK				Y					
AB-275	Red	Y				Y		2020-07-08	Raw		
AB-194	Red	Y				Y		2020-07-04	Raw	Y	Patron

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BC-09	Red	Y	(b) (4)			Y	(b) (4)		Raw		
BC-55	Red	Y				Y			Raw		
SK-19	Red	M				Y		2020-07-11	Raw	Y	Patron
AB-124	Red	Y				Y			Raw	Y	Patron
AB-141	Red	Y				Y			Raw	Y	Patron
AB-76	Red	M				Y		2020-06-24	Raw	Y	Patron
AB-140	Red	Y				Y			Raw		
AB-90	Other	Y				Y		2020-06-24			
BC-23	Other	DK				Y		2020-06-27			
BC-58	White	P				Y		2020-06-28	Raw		
MB-05	Other	M				Y		2020-07-08			
BC-73	Red	Y				Y					
BC-76	Other	N				P					
AB-118	Other	P				Y		2020-07-11			
AB-147	Red	Y						2020-07-05	Raw		
BC-14	Red	Y				Y			Raw		
BC-54	Red	Y				Y			Raw		
BC-65	Red	Y				Y		2020-07-15	Raw		
MB-07	Red	Y				Y		2020-07-07			

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AB-87	Red	Y	(b) (4)			Y	(b) (4)	2020-06-20	Raw		
QC-01	White	Y							Cooked		
AB-157	Red	Y				Y		2020-07-05	Raw		
BC-83	Other	Y									
BC-12	Other	Y				Y		2020-07-01	Cooked	Y	Patron
MB-16	Red	Y							Raw		
BC-59	Red	Y				Y		2020-07-10			
AB-89	Other	DK				Y					
AB-151	Red	Y							Raw		
AB-153	Red	Y						2020-07-12	Raw		
AB-160	Red	Y						2020-07-08	Raw		
AB-177	Red	Y						2020-07-10	Raw		
AB-185	Red	Y						2020-07-03	Raw		
AB-218	Red	Y						2020-07-10	Raw		
AB-221	Red	Y							Raw		
AB-230	Red	Y						2020-07-13	Raw		
BC-67	Red	Y									
MB-01	Red	Y						2020-06-26	Raw		
QC-11	Other	DK						2020-07-10			
AB-132	Red	Y				Y		2020-07-04	Raw	Y	Patron
AB-143	Red	DK				Y				Y	Patron

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AB-66	Red	Y	(b) (4)		Y	(b) (4)	2020-07-05	Raw	Y	Patron
AB-67	Other	DK			Y		2020-07-05		Y	Patron
AB-68	Other	DK			Y		2020-07-05		Y	Patron
AB-69	Red	Y			Y		2020-07-04	Raw	Y	Patron
AB-74	Red	M			Y		2020-07-05	Raw	Y	Patron
BC-13	Red	Y			Y		2020-06-28	Raw	Y	Patron
BC-26	White	P			Y		2020-06-28	Raw	Y	Patron
BC-47	Other	DK			Y					
BC-03	Other	DK			Y					
BC-15	Other	Y			Y		2020-06-27	Cooked	Y	Patron
AB-145	Red	Y						Raw		
BC-78	Red	Y			Y		2020-07-16	Raw		
AB-80	Other	N			Y					
MB-14	Red	P			Y		2020-07-11	Raw		
AB-133	Red	Y			Y		2020-08-17	Raw	Y	Patron
AB-148	Other	DK			Y		2020-07-03		Y	Patron
AB-70	Other	DK			Y		2020-07-03		Y	Patron
AB-71	Red	Y			Y		2020-07-06	Raw	Y	Patron
BC-10	White	DK			Y		2020-07-06			
SK-01	Other	P			Y		2020-07-06	Cooked		

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BC-70	White	Y	(b) (4)				(b) (4)		Raw	Y	Patron
BC-56	Red	P			Y				Cooked	Y	Patron
BC-81	Red	Y			Y					Y	Patron
BC-38	Red	Y									
AB-193	Red	Y			Y		2020-07-12		Raw		
AB-107	Red	M					2020-06-29			Y	Patron
AB-116	Red	Y			Y		2020-06-30		Raw	Y	Patron
AB-03	Other	DK			Y						
BC-72	Red	Y			Y		2020-07-10		Raw		
BC-71	Red	Y			Y						
AB-07	Other	P			Y		2020-07-02				
AB-222	White	Y					2020-07-08		Raw		
AB-233	Red	Y					2020-07-12		Raw		
BC-102	Other	DK			Y						
BC-57	Other	DK			Y		2020-07-12				
BC-92	White	P			Y		2020-07-22		Cooked		
Confirmed cases with most like											
AB-227	Red	Y									
AB-229	Red	Y							Raw		
AB-176	Red	Y							Raw		
AB-225	White	Y	Y	Y	N		May 13				
QC-09	White	DK			Y				Cooked		
QC-455	Other	DK			Y						
BC-90	Other	Y			Y						

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BC-89	White	DK	(b) (4)			Y	(b) (4)		Cooked	
QC-02	Other	Y							Cooked	
BC-104	Red	Y				Y			Raw	
QC-06	White	P							Cooked	
AB-106	Red	Y							Cooked	
BC-02	Other	DK				Y				
QC-12	White	Y							Raw	
AB-224	White	Y							Raw	
AB-79	Red	Y								
AB-81	Red	Y							Raw	
AB-85	Red	Y								
BC-68	Red	Y						2020-07-12	Raw	
AB-186	Red	Y		N		Y		2020-07-03 to 2020-07-06	Raw	
AB-203	Red	Y							Raw	
AB-234	Red	P								
BC-16	Red	DK		Y	Y			June 4		
BC-19	White	DK		Y	Y			2020-06-20		
BC-31	Red	Y		Y	Y			June 26, July 9		
BC-32	Red	Y						2020-05-14		

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BC-45	Other	DK	(b) (4)	Y	Y		(b) (4)	2020-05-12			
BC-63	Red	Y		Y	N						
BC-74	Red	Y		Y	Y			July 17	Raw		
BC-77	Red	Y									
BC-88	Red	Y		N		Y			Raw		
QC-13	Red	P							Cooked		
BC-100	Red	P							Raw		
MB-11	White	Y							Raw		
MB-15	White	Y		Y	Y			2020-07-14	Cooked		
BC-103	Red	Y				P			Raw		
BC-75	White	Y		Y	N				Cooked		
AB-263	Red	Y							Raw		
BC-05	Red	M		Y	Y	Y		July 2	Raw		

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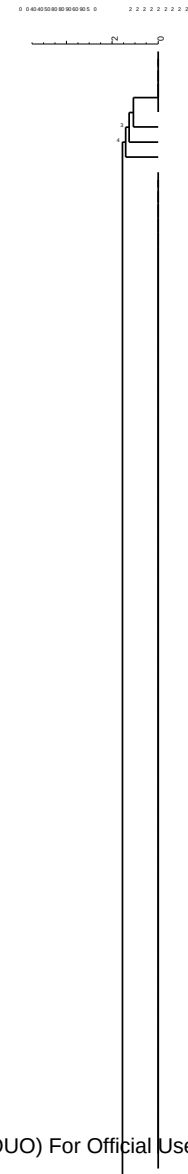

Key			SourceState	Organism	SIS R		IsolatDate	Source ype	SourceSite	PatientSex	PatientAge	Outbreak		
RN200001251	.		AB		Newport		2020-07-06			Male	2	2007NewWGS-1MP	.	.
RN2000012	.		AB		Newport		2020-07-0			Male	31	2007NewWGS-1MP	.	.
BC20A 62A	.	E3310210 30	BC	Newport	Newport		2020-07-1	Human	Faeces	MALE		2007NewWGS-1MP	.	.
20-02827	.	RN-20-0001375	AB	Newport	Newport	2020-07-2	2020-07-13	Human	Not given	Male	75	2007NewWGS-1MP	no DOB or sample source prov ded	.
20-02877	.	RN-20-0001 8	AB	Newport	Newport	2020-07-2	2020-07-15	Human	Not given	Female	38	2007NewWGS-1MP	no DOB or sample source prov ded	.
20-02887	.	RN-20-0001 6	AB	Newport	Newport	2020-07-2	2020-07-16	Human	Not given	Female	31	2007NewWGS-1MP	no DOB or sample source prov ded	.
20-02813	.	RN-20-000135	AB	Newport	Newport	2020-07-2	2020-07-10	Human	Not given	Male	7	2007NewWGS-1MP	no DOB or sample source prov ded	.
BC20A 33A	.	E331015 808	BC	Newport	Newport		2020-07-08	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
BC20A 0 A	.	E33100 9158	BC	Newport	Newport		2020-07-05	Human	Stool	Female	11	2007NewWGS-1MP	.	.
20MS0975	.	20T002958	ON	Newport	Newport	2020-07-12		Human	Stool	Female	75	2007NewWGS-1MP	.	.
BC20A 0A	.	E33101755 8	BC	Newport	Newport		2020-07-11	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
BC20A 31A	.	E331015 773	BC	Newport	Newport		2020-07-10	Human	Faeces	MALE		2007NewWGS-1MP	.	.
BC20A 29A	.	E331015 726	BC	Newport	Newport		2020-07-08	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
BC20A 30A	.	E331015 751	BC	Newport	Newport		2020-07-08	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
BC20A 28A	.	E33101 7125	BC	Newport	Newport		2020-07-08	Human	Faeces	MALE		2007NewWGS-1MP	.	.
BC20A 20A	.	E331009722	BC	Newport	Newport		2020-07-02	Human	Faeces	MALE		2007NewWGS-1MP	.	.
BC20A 37A	.	E3310169 85	BC	Newport	Newport		2020-07-10	Human	Faeces	MALE		2007NewWGS-1MP	.	.
BC20A 3 A	.	E331015 828	BC	Newport	Newport		2020-07-09	Human	Faeces	MALE		2007NewWGS-1MP	.	.
BC20A 23A	.	E3310113206	BC	Newport	Newport		2020-07-06	Human	Faeces	MALE		2007NewWGS-1MP	.	.
20-0253	.	20-191-01160	PE	Salmone la	Newport	2020-07-15	2020-07-09	Human	Stool	Male	32	2007NewWGS-1MP	.	.
MB-20183893	.	20183893	MB	Newport	Newport	2020-07-10	2020-07-09	HUMAN	STOOL	MALE	23	2007NewWGS-1MP	.	.
MB-20176 93	.	20176 93	MB	Newport	Newport	2020-07-13	2020-07-13	HUMAN	STOOL	MALE	68	2007NewWGS-1MP	.	.
RN200001198	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001265	.		AB		Newport		2020-07-06			Female	36	2007NewWGS-1MP	.	.
RN200001291	.		AB		Newport		2020-07-09			Female	5	2007NewWGS-1MP	.	.
RN200001255	.		AB		Newport		2020-07-06			Male	3	2007NewWGS-1MP	.	.
RN200001271	.	RN-20-0001271	AB	Newport	Newport		2020-07-06			Female	31	2007NewWGS-1MP	.	.
RN20000129	.		AB		Newport		2020-07-08			Male	33	2007NewWGS-1MP	.	.
RN200001293	.		AB		Newport		2020-07-09			Male	1	2007NewWGS-1MP	.	.
RN20000126	.		AB		Newport		2020-07-05			Male	1	2007NewWGS-1MP	.	.
RN200001298	.	RN-20-0001298	AB	Newport	Newport		2020-07-08			Female	6	2007NewWGS-1MP	.	.
RN200001263	.		AB		Newport		2020-07-06			Female	20	2007NewWGS-1MP	.	.
RN200001295	.		AB		Newport		2020-07-09			Female	2	2007NewWGS-1MP	.	.
RN200001275	.		AB		Newport		2020-07-11			Male	23	2007NewWGS-1MP	.	.
RN20000130	.	RN-20-000130	AB	Newport	Newport		2020-07-10			Female	3	2007NewWGS-1MP	.	.
BC20A 66A	.	E3310235737	BC	Newport	Newport		2020-07-17	Human	Faeces	MALE		2007NewWGS-1MP	.	.
BC20A 73A	.	E33102 6217	BC	Newport	Newport		2020-07-13	Human	Faeces	MALE		2007NewWGS-1MP	.	.
BC20A 69A	.	E33102311 8	BC	Newport	Newport		2020-07-1	Human	Blood	FEMALE		2007NewWGS-1MP	.	.
BC20A 71A	.	E33102 5880	BC	Newport	Newport		2020-07-17	Human	Faeces	MALE		2007NewWGS-1MP	.	.
BC20A 63A	.	E3310199063	BC	Newport	Newport		2020-07-13	Human	Blood	MALE		2007NewWGS-1MP	.	.
BC20A 70A	.	E33102 3 97	BC	Newport	Newport		2020-07-15	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
BC20A 55A	.	E33101 2330	BC	Newport	Newport		2020-07-13	Human	Faeces	MALE		2007NewWGS-1MP	.	.
BC20A 56A	.	E331018 093	BC	Newport	Newport		2020-07-12	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
BC20A 72A	.	E33102 3 36	BC	Newport	Newport		2020-07-17	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
RN200001311	.		AB		Newport		2020-07-07			Female	93	2007NewWGS-1MP	.	.
BC20A 77A	.	E33102 9668	BC	Newport	Newport		2020-07-19	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
RN200001256	.		AB		Newport		2020-07-06			Male	28	2007NewWGS-1MP	.	.
RN200001266	.	RN-20-0001266	AB	Newport	Newport		2020-07-06			Female	2	2007NewWGS-1MP	.	.
RN200001226	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001192	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001260	.		AB		Newport							2007NewWGS-1MP	.	.
RN20000121	.		AB		Newport							2007NewWGS-1MP	.	.
BC20A 2A	.	R3310066507	BC	Newport	Newport		2020-07-11	Human	Feces	FEMALE		2007NewWGS-1MP	.	.
RN20000123	.		AB		Newport							2007NewWGS-1MP	.	.
RN20000119	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001233	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001193	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001328	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001213	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001221	.		AB		Newport							2007NewWGS-1MP	.	.
RN2000012 3	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001235	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001220	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001232	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001333	.		AB		Newport							2007NewWGS-1MP	.	.
BC20A 38A	.	E3310169778	BC	Newport	Newport		2020-07-10	Human	Faeces	MALE		2007NewWGS-1MP	.	.
BC20A 76A	.	R3310105369	BC	Newport	Newport		2020-07-17	Human	Feces	MALE		2007NewWGS-1MP	.	.
RN200001261	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001228	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001215	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001209	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001262	.		AB		Newport							2007NewWGS-1MP	.	.
RN200001325	.		AB		Newport							2007NewWGS-1MP	.	.

RN200001274		RN-20-0001274	AB	Newport	Newport		2020-07-07			Female	19	2007NewWGS-1MP		
	RN200001273	RN-20-0001273	AB	Newport	Newport		2020-07-10			Female	45	2007NewWGS-1MP		
	RN200001310	RN-20-0001310	AB	Newport	Newport		2020-07-10			Male	24	2007NewWGS-1MP		
	BC20A427A	E3310134308	BC	Newport	Newport		2020-07-12	Human	Faeces	MALE		2007NewWGS-1MP		
	MB-20199999	20199999	MB	Newport	Newport	2020-07-20	2020-07-23	Human	Stool	Female	72	2007NewWGS-1MP		
	MB-20200669	20200669	MB	Newport	Newport	2020-07-20	2020-07-22	Human	Stool	Male	52	2007NewWGS-1MP		
	RN200001272	RN-20-0001272	AB	Newport	Newport		2020-07-06			Female	40	2007NewWGS-1MP		
	20MS1029	20T0029607	ON	Newport	Newport	2020-07-16		Human	Urine	Female	43	2007NewWGS-1MP		
	BC20A468A	E3310231226	BC	Newport	Newport		2020-07-15	Human	Faeces	FEMALE		2007NewWGS-1MP	resident of AB	
	BC20A464A	E3310198029	BC	Newport	Newport		2020-07-15	Human	Faeces	MALE		2007NewWGS-1MP	resident of AB	
	RN200001172		AB		Newport							2007NewWGS-1MP		
	20-02769	RN-20-0001312	AB	Newport	Newport	2020-07-22	2020-07-10	Human	Not given	Female	34	2007NewWGS-1MP	no DOB or sample source provided	
	20-02782	RN-20-0001335	AB	Newport	Newport	2020-07-22	2020-07-10	Human	Not given	Female	26	2007NewWGS-1MP	no DOB or sample source provided	
	BC20A432A	E3310154795	BC	Newport	Newport		2020-07-10	Human	Faeces	MALE		2007NewWGS-1MP		
	BC20A460A	E3310212884	BC	Newport	Newport		2020-07-11	Human	Faeces	MALE		2007NewWGS-1MP		
	20-02660	L00271905001	QC	Newport	Newport	2020-07-21	2020-07-05	Human	Stool	Male	78	2007NewWGS-1MP		
	20-02745	RN-20-0001339	AB	Salmonella	Newport	2020-07-22	2020-07-10	Human	Not given	Female	53	2007NewWGS-1MP	no DOB or sample source provided	
	20-02781	RN-20-0001332	AB	Newport	Newport	2020-07-22	2020-07-10	Human	Not given	Female	17	2007NewWGS-1MP	no DOB or sample source provided	
	20-02783	RN-20-0001338	AB	Newport	Newport	2020-07-22	2020-07-10	Human	Not given	Male	57	2007NewWGS-1MP	no DOB or sample source provided	
	20-02767	RN-20-0001315	AB	Newport	Newport	2020-07-22	2020-07-10	Human	Not given	Female	43	2007NewWGS-1MP	no DOB or sample source provided	
	MB-20198087	20198087	MB	Newport	Newport	2020-07-11	2020-07-09	Human	Stool	Male	33	2007NewWGS-1MP		
	20-02777	RN-20-0001316	AB	Newport	Newport	2020-07-22	2020-07-08	Human	Not given	Female	19	2007NewWGS-1MP	no DOB or sample source provided	
	20-02819	RN-20-0001362	AB	Newport	Newport	2020-07-24	2020-07-12	Human	Not given	Male	28	2007NewWGS-1MP	no DOB or sample source provided	
	MB-20200658	20200658	MB	Newport	Newport	2015-07-19	2015-07-16	Human	Stool	Male	27	2007NewWGS-1MP		
	20-02747	RN-20-0001346	AB	Salmonella	Newport	2020-07-22	2020-07-10	Human	Not given	Male	19	2007NewWGS-1MP	no DOB or sample source provided	
	20-02775	RN-20-0001318	AB	Newport	Newport	2020-07-22	2020-07-08	Human	Not given	Male	29	2007NewWGS-1MP	no DOB or sample source provided	
	20-02811	RN-20-0001352	AB	Newport	Newport	2020-07-24	2020-07-11	Human	Not given	Male	24	2007NewWGS-1MP	no DOB or sample source provided	
	BC20A422A	E3310113190	BC	Newport	Newport		2020-07-04	Human	Faeces	FEMALE		2007NewWGS-1MP		
	20-02834	RN-20-0001386	AB	Newport	Newport	2020-07-24	2020-07-12	Human	Not given	Male	21	2007NewWGS-1MP	no DOB or sample source provided	
	20-02826	RN-20-0001374	AB	Newport	Newport	2020-07-24	2020-07-12	Human	Not given	Male	13	2007NewWGS-1MP	no DOB or sample source provided	
	20-02835	RN-20-0001387	AB	Newport	Newport	2020-07-24	2020-07-12	Human	Not given	Female	39	2007NewWGS-1MP	no DOB or sample source provided	
	20-02825	RN-20-0001371	AB	Newport	Newport	2020-07-24	2020-07-15	Human	Not given	Male	27	2007NewWGS-1MP	no DOB or sample source provided	
	20-02833	RN-20-0001385	AB	Newport	Newport	2020-07-24	2020-07-14	Human	Not given	Female	40	2007NewWGS-1MP	no DOB or sample source provided	
	20-02868	RN-20-0001431	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Female	83	2007NewWGS-1MP	no DOB or sample source provided	
	20-02874	RN-20-0001440	AB	Newport	Newport	2020-07-24	2020-07-15	Human	Not given	Male	27	2007NewWGS-1MP	no DOB or sample source provided	
	20-02871	RN-20-0001434	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Female	45	2007NewWGS-1MP	no DOB or sample source provided	
	20-02898	RN-20-0001478	AB	Salmonella	Newport	2020-07-24	2020-07-18	Human	Not given	Male	26	2007NewWGS-1MP	no DOB or sample source provided	
	20-02875	RN-20-0001441	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Male	27	2007NewWGS-1MP	no DOB or sample source provided	
	20-02883	RN-20-0001460	AB	Newport	Newport	2020-07-24	2020-07-15	Human	Not given	Male	73	2007NewWGS-1MP	no DOB or sample source provided	
	20-02869	RN-20-0001432	AB	Newport	Newport	2020-07-24	2020-07-15	Human	Not given	Female	58	2007NewWGS-1MP	no DOB or sample source provided	
	20-02870	RN-20-0001433	AB	Newport	Newport	2020-07-24	2020-07-15	Human	Not given	Male	30	2007NewWGS-1MP	no DOB or sample source provided	
	20-02872	RN-20-0001435	AB	Newport	Newport	2020-07-24	2020-07-15	Human	Not given	Male	19	2007NewWGS-1MP	no DOB or sample source provided	
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	20-02823	RN-20-0001369	AB	Newport	Newport	2020-07-24	2020-07-11	Human	Not given	Female	72	2007NewWGS-1MP	no DOB or sample source provided	
	20-02809	RN-20-0001350	AB	Newport	Newport	2020-07-24	2020-07-10	Human	Not given	Male	28	2007NewWGS-1MP	no DOB or sample source provided	
	20-02812	RN-20-0001353	AB	Newport	Newport	2020-07-24	2020-07-11	Human	Not given	Male	61	2007NewWGS-1MP	no DOB or sample source provided	
	20-02820	RN-20-0001363	AB	Newport	Newport	2020-07-24	2020-07-12	Human	Not given	Male	60	2007NewWGS-1MP	no DOB or sample source provided	
	20-02817	RN-20-0001360	AB	Newport	Newport	2020-07-24	2020-07-12	Human	Not given	Male	83	2007NewWGS-1MP	no DOB or sample source provided	
	20-02816	RN-20-0001359	AB	Newport	Newport	2020-07-24	2020-07-09	Human	Not given	Male	29	2007NewWGS-1MP	no DOB or sample source provided	
	20-02824	RN-20-0001370	AB	Newport	Newport	2020-07-24	2020-07-14	Human	Not given	Female	23	2007NewWGS-1MP	no DOB or sample source provided	
	20-02888	RN-20-0001467	AB	Salmonella	Newport	2020-07-24	2020-07-14	Human	Not given	Male	55	2007NewWGS-1MP	no DOB or sample source provided	
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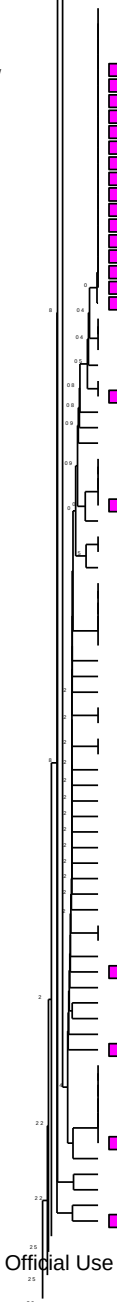
	20-02896	RN-20-0001476	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Male	18	2007NewWGS-1MP	no DOB or sample source provided	
	20-02884	RN-20-0001461	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Female	30	2007NewWGS-1MP	no DOB or sample source provided	
	20-02894	RN-20-0001474	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Female	52	2007NewWGS-1MP	no DOB or sample source provided	
	20-02885	RN-20-0001462	AB	Newport	Newport	2020-07-24	2020-07-17	Human	Not given	Female	43	2007NewWGS-1MP	no DOB or sample source provided	
	20-02895	RN-20-0001475	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Female	45	2007NewWGS-1MP	no DOB or sample source provided	
	20-02889	RN-20-0001468	AB	Newport	Newport	2020-07-24	2020-07-14	Human	Not given	Female	98	2007NewWGS-1MP	no DOB or sample source provided	
	20-02814	RN-20-0001355	AB	Newport	Newport	2020-07-24	2020-07-11	Human	Not given	Male	36	2007NewWGS-1MP	no DOB or sample source provided	
	20-02822	RN-20-0001368	AB	Newport	Newport	2020-07-24	2020-07-12	Human	Not given	Male	77	2007NewWGS-1MP	no DOB or sample source provided	
	20-02837	RN-20-0001389	AB	Newport	Newport	2020-07-24	2020-07-13	Human	Not given	Male	66	2007NewWGS-1MP	no DOB or sample source provided	
	20-02836	RN-20-0001388	AB	Newport	Newport	2020-07-24	2020-07-12	Human	Not given	Male	32	2007NewWGS-1MP	no DOB or sample source provided	
	20-02844	RN-20-0001404	AB	Newport	Newport	2020-07-24	2020-07-13	Human	Not given	Female	22	2007NewWGS-1MP	no DOB or sample source provided	
	20-02843	RN-20-0001402	AB	Newport	Newport	2020-07-24	2020-07-14	Human	Not given	Male	34	2007NewWGS-1MP	no DOB or sample source provided	
	20-02829	RN-20-0001377	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Female	78	2007NewWGS-1MP	no DOB or sample source provided	
	20-02865	RN-20-0001428	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Female	23	2007NewWGS-1MP	no DOB or sample source provided	
	20-02842	RN-20-0001397	AB	Newport	Newport	2020-07-24	2020-07-17	Human	Not given	Female	86	2007NewWGS-1MP	no DOB or sample source provided	
	20-02850	RN-20-0001412	AB	Newport	Newport	2020-07-24	2020-07-18	Human	Not given	Female	95	2007NewWGS-1MP	no DOB or sample source provided	
	20-02858	RN-20-0001420	AB	Newport	Newport	2020-07-24	2020-07-13	Human	Not given	Female	49	2007NewWGS-1MP	no DOB or sample source provided	
	20-02866	RN-20-0001429	AB	Newport	Newport	2020-07-24	2020-07-19	Human	Not given	Female	90	2007NewWGS-1MP	no DOB or sample source provided	
	20-02828	RN-20-0001376	AB	Newport	Newport	2020-07-24	2020-07-13	Human	Not given	Female	22	2007NewWGS-1MP	no DOB or sample source provided	
	20-02867	RN-20-0001430	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Male	46	2007NewWGS-1MP	no DOB or sample source provided	
	20-02847	RN-20-0001408	AB	Newport	Newport	2020-07-24	2020-07-15	Human	Not given	Female	58	2007NewWGS-1MP	no DOB or sample source provided	
	20-02862	RN-20-0001424	AB	Newport	Newport	2020-07-24	2020-07-13	Human	Not given	Female	33	2007NewWGS-1MP	no DOB or sample source provided	
	20-02856	RN-20-0001418	AB	Salmonella	Newport	2020-07-24	2020-07-14	Human	Not given	Male	22	2007NewWGS-1MP	no DOB or sample source provided	



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New	BC20A520A	.	E3310331820	BC	Newport	Newport		2020-07-20	Human	Faeces	MALE		2007NewWGS-1MP	.	.
New	BC20A507A	.	E3310255764	BC	Newport	Newport		2020-07-21	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
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New	BC20A517A	.	E3310331678	BC	Newport	Newport		2020-07-19	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
New	BC20A519A	.	E3310331807	BC	Newport	Newport		2020-07-20	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
New	BC20A504A	.	E3310274918	BC	Newport	Newport		2020-07-17	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
New	BC20A511A	.	E3310319881	BC	Newport	Newport		2020-07-23	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
New	BC20A506A	.	E3310302189	BC	Newport	Newport		2020-07-22	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
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New	BC20A516A	.	E3310331658	BC	Newport	Newport		2020-07-21	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
New	BC20A510A	.	E3310300516	BC	Newport	Newport		2020-07-22	Human	Faeces	MALE		2007NewWGS-1MP	.	.
New	BC20A509A	.	E3310300498	BC	Newport	Newport		2020-07-21	Human	Faeces	MALE		2007NewWGS-1MP	.	.
New	BC20A524A	.	E3310331838	BC	Newport	Newport		2020-07-20	Human	Faeces	MALE		2007NewWGS-1MP	.	.
New	BC20A508A	.	E3310300478	BC	Newport	Newport		2020-07-21	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
	MB-20199006	.	20199006	MB	Newport	Newport	2020-07-14	2020-07-14	HUMAN	STOOL	FEMALE	29	2007NewWGS-1MP	.	.
	20-02861	.	RN-20-0001423	AB	Newport	Newport	2020-07-24	2020-07-12	Human	Not given	Female	28	2007NewWGS-1MP	no DOB or sample source provided	.
	MB-20200570	.	20200570	MB	Newport	Newport	2015-07-17	2015-07-13	Human	Stool	Male	31	2007NewWGS-1MP	.	.
	MB-20200697	.	20200697	MB	Newport	Newport	2020-07-21	2020-07-23	Human	Stool	Female	44	2007NewWGS-1MP	.	.
	BC20A478A	.	E3310246080	BC	Newport	Newport		2020-07-16	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
New	BC20A525A	.	E3310331869	BC	Newport	Newport		2020-07-22	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
	20-02857	.	RN-20-0001419	AB	Newport	Newport	2020-07-24	2020-07-14	Human	Not given	Female	62	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02893	.	RN-20-0001473	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Male	59	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02899	.	RN-20-0001480	AB	Newport	Newport	2020-07-24	2020-07-19	Human	Not given	Female	84	2007NewWGS-1MP	no DOB or sample source provided	.
	BC20A425A	.	E3310125206	BC	Newport	Newport		2020-07-07	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
	BC20A424A	.	E3310124511	BC	Newport	Newport		2020-07-07	Human	Faeces	MALE		2007NewWGS-1MP	.	.
	BC20A474A	.	E3310246284	BC	Newport	Newport		2020-07-13	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
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	BC20A439A	.	E3310172129	BC	Newport	Newport		2020-07-09	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
	20-02808	.	RN-20-0001348	AB	Newport	Newport	2020-07-24	2020-07-10	Human	Not given	Female	77	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02846	.	RN-20-0001406	AB	Newport	Newport	2020-07-24	2020-07-13	Human	Not given	Male	27	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02854	.	RN-20-0001416	AB	Newport	Newport	2020-07-24	2020-07-14	Human	Not given	Male	23	2007NewWGS-1MP	no DOB or sample source provided	.
	BC20A459A	.	E3310198052	BC	Newport	Newport		2020-07-13	Human	Faeces	MALE		2007NewWGS-1MP	.	.
	20-02848	.	RN-20-0001409	AB	Newport	Newport	2020-07-24	2020-07-14	Human	Not given	Male	87	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02873	.	RN-20-0001437	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Male	87	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02891	.	RN-20-0001471	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Female	44	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02841	.	RN-20-0001394	AB	Newport	Newport	2020-07-24	2020-07-14	Human	Not given	Female	42	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02787	.	RN-20-0001321	AB	Newport	Newport	2020-07-22	2020-07-09	Human	Not given	Male	24	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02881	.	RN-20-0001458	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Male	89	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02838	.	RN-20-0001390	AB	Newport	Newport	2020-07-24	2020-07-13	Human	Not given	Female	23	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02831	.	RN-20-0001379	AB	Newport	Newport	2020-07-24	2020-07-12	Human	Not given	Female	30	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02815	.	RN-20-0001356	AB	Newport	Newport	2020-07-24	2020-07-11	Human	Not given	Male	23	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02882	.	RN-20-0001459	AB	Newport	Newport	2020-07-24	2020-07-16	Human	Not given	Male	73	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02852	.	RN-20-0001414	AB	Newport	Newport	2020-07-24	2020-07-15	Human	Not given	Male	18	2007NewWGS-1MP	no DOB or sample source provided	.
	RN200001231	.		AB		Newport							2007NewWGS-1MP	.	.
	RN200001329	.		AB		Newport							2007NewWGS-1MP	.	.
	RN200001222	.		AB		Newport							2007NewWGS-1MP	.	.
	RN200001197	.		AB		Newport							2007NewWGS-1MP	.	.
	RN200001292	.		AB		Newport							2007NewWGS-1MP	.	.
	20-02790	.	RN-20-0001322	AB	Newport	Newport	2020-07-22	2020-07-08	Human	Not given	Female	49	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02725	.	L0717R010523	SK	Newport	Newport	2020-07-22	2020-07-09	Human	Stool	Male	68	2007NewWGS-1MP	.	.
	20-02879	.	RN-20-0001456	AB	Newport	Newport	2020-07-24	2020-07-15	Human	Not given	Male	96	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02849	.	RN-20-0001411	AB	Newport	Newport	2020-07-24	2020-07-13	Human	Not given	Female	39	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02878	.	RN-20-0001449	AB	Newport	Newport	2020-07-24	2020-07-15	Human	Not given	Female	10	2007NewWGS-1MP	no DOB or sample source provided	.
	BC20A467A	.	E3310235751	BC	Newport	Newport		2020-07-17	Human	Faeces	MALE		2007NewWGS-1MP	.	.
	20-02785	.	RN-20-0001320	AB	Newport	Newport	2020-07-22	2020-07-09	Human	Not given	Female	26	2007NewWGS-1MP	no DOB or sample source provided	.
	RN200001301	.	RN-20-0001301	AB	Newport	Newport		2020-07-10			Male	46	2007NewWGS-1MP	.	.
New	BC20A505A	.	E3310273420	BC	Newport	Newport		2020-07-16	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
	BC20A465A	.	E3310197999	BC	Newport	Newport		2020-07-13	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
	BC20A435A	.	E3310154846	BC	Newport	Newport		2020-07-09	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
	BC20A475A	.	E3310243574	BC	Newport	Newport		2020-07-17	Human	Faeces	MALE		2007NewWGS-1MP	.	.
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New	BC20A515A	.	E3310262734	BC	Newport	Newport		2020-07-21	Human	Faeces	MALE		2007NewWGS-1MP	.	.
	BC20A441A	.	E3310175569	BC	Newport	Newport		2020-07-13	Human	Blood	FEMALE		2007NewWGS-1MP	.	.
	BC20A458A	.	E3310199487	BC	Newport	Newport		2020-07-14	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
	RN200001334	.		AB		Newport							2007NewWGS-1MP	.	.
	RN200001199	.		AB		Newport							2007NewWGS-1MP	.	.
	20-02876	.	RN-20-0001447	AB	Newport	Newport	2020-07-24	2020-07-15	Human	Not given	Female	41	2007NewWGS-1MP	no DOB or sample source provided	.
New	BC20A512A	.	E3310319901	BC	Newport	Newport		2020-07-24	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
	20-02845	.	RN-20-0001405	AB	Newport	Newport	2020-07-24	2020-07-13	Human	Not given	Female	31	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02742	.	RN-20-0001341	AB	Salmonella	Newport	2020-07-22	2020-07-09	Human	Not given	Female	19	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02726	.	L0717R010525	SK	Newport	Newport	2020-07-22	2020-07-15	Human	Stool	Female	16	2007NewWGS-1MP	.	.
	20-02855	.	RN-20-0001417	AB	Newport	Newport	2020-07-24	2020-07-14	Human	Not given	Male	30	2007NewWGS-1MP	no DOB or sample source provided	.
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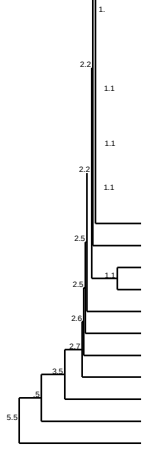

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	20-02743	.	RN-20-0001347	AB	Salmonella	Newport	2020-07-22	2020-07-09	Human	Not given	Male	25	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02724	.	L0716R010455	SK	Newport	Newport	2020-07-22	2020-07-08	Human	Stool	Male	29	2007NewWGS-1MP	.	.
	BC20A421A	.	E3310097237	BC	Newport	Newport		2020-07-03	Human	Faeces	FEMALE		2007NewWGS-1MP	.	..
	MB-20199008	.	20199008	MB	Newport	Newport	2015-07-14	2015-07-14	Human	Stool	Female	70	2007NewWGS-1MP	.	.
New	BC20A518A	.	E3310331774	BC	Newport	Newport		2020-07-19	Human	Faeces	FEMALE		2007NewWGS-1MP	.	.
	MB-20200752	.	20200752	MB	Newport	Newport	2020-07-21	2020-07-23	Human	Stool	Male	4	2007NewWGS-1MP	.	.
	20-02839	.	RN-20-0001391	AB	Newport	Newport	2020-07-24	2020-07-14	Human	Not given	Male	14	2007NewWGS-1MP	no DOB or sample source provided	.
	20-02728	.	L0717R010534	SK	Newport	Newport	2020-07-22	2020-07-14	Human	Stool	Female	23	2007NewWGS-1MP	.	.
	RN200001205	.		AB		Newport							2007NewWGS-1MP	.	.

Comparison generated using BioNumericsv 7.6.3 based on 4571 alleles. All isolates included in the analysis would be considered related by wgMLST. The wgMLSTdifferences indicated at the nodes were calculated using UPGMA and therefore, are not whole numbers. To determine the nearest whole number value, round up if the digit following the decimal is 5 or greater; round down if the digit following the decimal is less than 4.
PulseNetCanada 2020-08-04