

# FDA Investigating Multistate Outbreak of *E. coli* O157:H7 Infections Linked to Romaine Lettuce from Yuma Growing Region

June 28, 2018

*The U.S. Food and Drug Administration, along with the Centers for Disease Control and Prevention (CDC) and state and local partners, are investigating a multistate outbreak of *E. coli* O157:H7 illnesses linked to romaine lettuce from the Yuma growing region.*

## Update

The FDA, along with CDC and state partners, initiated an environmental assessment in the Yuma growing region to further investigate potential sources of contamination linked to this outbreak.

Samples have been collected from environmental sources in the region, including water, soil, and cow manure. Evaluation of these samples is ongoing.

To date, CDC analysis of samples taken from canal water in the region has identified the presence of *E. coli* O157:H7 with the same genetic finger print as the outbreak strain. We have identified additional strains of Shiga-toxin producing *E. coli* in water and soil samples, but at this time, the samples from the canal water are the only matches to the outbreak strain.

Analysis of additional samples is still ongoing, and any new matches to the outbreak strain will be communicated publicly and with industry in the region.

Identification of the outbreak strain in the environment should prove valuable in our analysis of potential routes of contamination, and we are continuing our investigation in an effort to learn more about how the outbreak strain could have entered the water and ways that this water could have come into contact with and contaminated romaine lettuce in the region.

## Fast Facts

- The FDA is investigating a multistate outbreak of *E. coli* O157:H7 illnesses linked to romaine lettuce sourced from the winter growing areas in and around the Yuma growing region. Suspect product is no longer being harvested or distributed from this area and is no longer available in stores or restaurants, due to its 21-day shelf life.
- As of June 27, the [CDC reports](#) that 210 people in 36 states have become ill. These people reported becoming ill in the time period of [March 13, 2018 to June 6, 2018](#). There have been 96 hospitalizations and five deaths.
- The traceback investigation indicates that the illnesses associated with this outbreak cannot be explained by a single grower, harvester, processor, or distributor. While traceback continues, the FDA will focus on trying to identify factors that contributed to contamination of romaine across multiple supply chains. The agency is examining all possibilities, including that contamination may have occurred at any point along the growing, harvesting, packaging, and distribution chain before reaching consumers.

- On May 31, 2018 the FDA released a blog with updated information on the traceback investigation (for additional information, visit [FDA Update on Traceback Related to the E. coli O157:H7 Outbreak Linked to Romaine Lettuce](#)).
- The FDA, along with CDC and state partners, initiated an environmental assessment in the Yuma growing region to further investigate potential sources of contamination linked to this outbreak. To date, CDC analysis of samples taken from canal water in the region has identified the presence of *E. coli* O157:H7 with the same genetic fingerprint as the outbreak strain. We have identified additional strains of *E. coli* in water and soil samples, but at this time, the samples from the canal water are the only matches to the outbreak strain.
- The FDA is continuing to investigate this outbreak and will share more information as it becomes available.
- Consumers who have [symptoms of STEC infection](#) should contact their health care provider to report their symptoms and receive care. Although many infections resolve in 5-7 days, they can result in serious illness, including a potentially serious condition called hemolytic uremic syndrome.
- The current outbreak is not related to a recent multistate outbreak of *E. coli* O157:H7 infections from November to December 2017 linked to [leafy greens](#) consumption. People in the previous outbreak were infected with a different DNA fingerprint of *E. coli* O157:H7 bacteria.

## What is the Problem and What is being Done About It?

The FDA and the [CDC](#), along with state and local health officials, are investigating an outbreak of Shiga toxin-producing *E. coli* O157:H7 infections.

There are 210 cases in 36 states: Alabama (3) Alaska (8), Arkansas (1), Arizona (9), California (49), Colorado (3), Connecticut (2), Florida (3), Georgia (5), Idaho (12), Illinois (2), Iowa (1), Kentucky (1), Louisiana (1), Massachusetts (4), Michigan (5), Minnesota (12), Mississippi (1), Missouri (1), Montana (9), Nebraska (1), New Jersey (8), New York (11), North Carolina (1), North Dakota (3), Ohio (7), Oklahoma (1), Oregon (1), Pennsylvania (24), South Dakota (1), Tennessee (3), Texas (4), Utah (1), Virginia (1), Washington (8), and Wisconsin (3). The current outbreak is not related to a recent multistate outbreak of [E. coli O157:H7 infections linked to leafy greens](#). People in the previous outbreak were infected with a different DNA fingerprint of *E. coli* O157:H7 bacteria.

The most recent information collected by the FDA, in conjunction with federal, state, and local partners, indicates that the romaine lettuce that ill people ate was likely grown or originated from the winter growing areas in or around the Yuma region. This region generally supplies romaine lettuce to the U.S. during November-March each year. The FDA is working closely with federal, state, and local partners on an ongoing traceback investigation to determine the source of romaine lettuce supplied to ill consumers. In a typical traceback effort, CDC and the FDA identify clusters of people who became ill, especially in different geographical regions and work to trace the food eaten by those made ill to a common source. For this outbreak investigation, we have been able to identify romaine lettuce as the common food source. Romaine products that would have caused illness were no longer available at exposure locations, making it

difficult to determine production lots of concern. In addition, we have found that a single production lot may contain romaine from multiple ranches, which makes the traceback more challenging. We are working with federal and state partners and companies as quickly as possible to collect, review and analyze hundreds of records in an attempt to traceback the source of the contaminated romaine lettuce.

To date, the available information indicates that romaine lettuce from the Yuma growing region is the source of the current outbreak of *E. coli* O157:H7 infections, and was supplied to restaurants and retailers through multiple processors, grower/shipper companies, and farms. The information we have collected indicates that the illnesses associated with this outbreak cannot be explained by a single grower, harvester, processor, or distributor. While traceback continues, FDA will focus on trying to identify factors that contributed to contamination of romaine across multiple supply chains. The agency is examining all possibilities, including that contamination may have occurred at any point along the growing, harvesting, packaging, and distribution chain before reaching consumers. (for additional information, visit [FDA Update on Traceback Related to the E. coli O157:H7 Outbreak Linked to Romaine Lettuce](#)).

The traceback investigation is ongoing and additional information will be provided as it becomes available.

## Timeline

On April 4, 2018 FDA learned about a cluster of *E. coli* O157:H7 infections in two states. On April 5, 2018 a new cluster was reported in multiple states.

In the following weeks, the FDA, CDC, and state partners worked together to collect additional information and conduct traceback activities to identify a food item of interest. On April 10, 2018 the FDA publicly communicated about the outbreak, but was unable to identify a food source. The agency recommended that consumers practice safe food handling and preparation and to consult a health care provider if they think they might have symptoms of *E. coli* infection.

Interviews with ill people allowed health partners to identify chopped romaine from the Yuma growing region as the likely source of contamination on April 13, 2018.

\*April 16, 2018 was the final day of romaine harvesting in the Yuma growing region, however at the time chopped romaine had just been identified as the likely source allowing the traceback investigation to begin and at this point, no specific farms in the Yuma region had been identified. FDA did not receive confirmation of the final harvest date until May 2, 2018.

On April 19, 2018, Alaska health partners announced that eight persons with *E. coli* O157:H7 infections from a correctional facility have been confirmed as part of the outbreak. These individuals ate whole-head romaine lettuce from the Yuma growing region. Following this announcement the FDA advised consumers to avoid all romaine lettuce from the Yuma growing region.

In the following weeks FDA continued its traceback investigation, part of which was able to trace the Alaskan correctional facility back to a single farm, which was released on April 27, 2018.

On May 2, 2018 the FDA received confirmation from the Arizona Leafy Greens Marketing Agreement that romaine lettuce was no longer being produced and

distributed from the Yuma growing region, reducing the potential for exposure to contaminated product. At that time, due to the 21-day shelf life, we could not be certain that romaine lettuce from that region was no longer in the supply chain.

On May 31, 2018 the FDA released a blog with updated information on our ongoing traceback investigation (for additional information, visit [FDA Update on Traceback Related to the E. coli O157:H7 Outbreak Linked to Romaine Lettuce](#)).

From June 4 - June 8, 2018 sampling for the environmental assessment was conducted in the Yuma growing region.

On June 28, 2018 the CDC announced that the outbreak has ended. In addition, the FDA and CDC announced preliminary results from the environmental assessment of the Yuma growing region.

## **What are the Symptoms of *E. coli* O157:H7 Infection?**

The symptoms of STEC infections vary for each person but often include severe stomach cramps and bloody diarrhea. If there is fever, it is usually not very high (less than 101 degrees [Fahrenheit](#) /less than 38.5 degrees Celsius). Most people get better within 5–7 days. Some infections are very mild, but others are severe or even life-threatening.

Around 5–10 percent of those who are diagnosed with STEC infection develop a potentially life-threatening complication, known as hemolytic uremic syndrome (HUS). Symptoms of HUS include fever, abdominal pain, feeling very tired, decreased frequency of urination, small unexplained bruises or bleeding, and pallor. Most people with HUS recover within a few weeks, but some suffer permanent damage or die. People who experience these symptoms should seek emergency medical care immediately. Persons with HUS should be hospitalized because their kidneys may stop working (acute renal failure), but they may also develop other serious problems such as hypertension, chronic kidney disease, and neurologic problems.

## **Who is at Risk?**

People of any age can become infected with Shiga toxin-producing (STEC) *E. coli*. Children under the age of 5 years, adults older than 65, and people with weakened immune systems are more likely than others to develop severe illness, including HUS, but even healthy older children and young adults can become seriously ill.

## **What Do Restaurants and Retailers Need To Do?**

Retailers, restaurants, and other food service operators should always take steps to avoid the cross contamination of cutting surfaces and utensils through contact with potentially contaminated products. Retailers, restaurants, and other food service operators should always take steps to adequately control the temperature of cut leafy greens and to avoid cross contamination of cutting surfaces and utensils through contact with potentially contaminated products. To prevent cross contamination, you should follow the steps below:

- Wash and sanitize display cases and refrigerators where potentially contaminated products were stored.
- Wash and sanitize cutting boards, surfaces, and utensils used to prepare, serve, or store potentially contaminated products.
- Wash hands with hot water and soap following the cleaning and sanitation process.
- In accordance with the [FDA Food Code 2017](#), cut leafy greens, including romaine lettuce, require time/temperature control for safety and should be refrigerated at 41°F or lower.
- Regular frequent cleaning and sanitizing of food contact surfaces and utensils used in food preparation may help to minimize the likelihood of cross-contamination.

## What Do Consumers Need To Do?

Consumers should always practice safe food handling and preparation measures. It is recommended that they wash hands, utensils, and surfaces with hot, soapy water before and after handling food.

For refrigerators and other food preparation surfaces and food cutting utensils that may have come in contact with contaminated foods, it is very important that the consumers thoroughly clean these areas and items.

Consumers should follow these simple steps:

- Wash the inside walls and shelves of the refrigerator, cutting boards and countertops; then sanitize them with a solution of one tablespoon of chlorine bleach to one gallon of hot water; dry with a clean cloth or paper towel that has not been previously used.
- Wash hands with warm water and soap for at least 20 seconds before and after handling food.
- Wipe up spills in the refrigerator immediately and clean the refrigerator regularly.
- Always wash hands with hot, soapy water following the cleaning and sanitization process.
- Persons who think they might have become ill from eating potentially contaminated foods should consult their health care provider.

## Who Should be Contacted?

People who think they might have symptoms of an *E. coli* infection should consult their health care provider.

The FDA encourages consumers with questions about food safety to [Submit An Inquiry](#), or to visit [www.fda.gov/fcic](http://www.fda.gov/fcic) for additional information. .