

2411MOEXH-2 Closeout Summary
Closeout Date: January 15, 2025
CDC Primary Contact: Angelo Lodato
Classification: Outbreak
Vehicle: Romaine Lettuce
Vehicle Status: Confirmed
Exposure Type: Multistate

Hello Colleagues,

On November 25, 2024, PulseNet coded an outbreak of *E. coli* O157:H7 2411MOEXH-2. At the time of closing, this investigation included 89 cases across 15 states: AR (2), CO (1), IL (7), IN (8), KS (1), KY (1), MO (50), MT (1), ND (2), NE (3), OH (8), PA (1), SD (1), TN (1), WI (2), all related within 0-4 alleles by cgMLST. Isolation dates ranged from November 7, 2024, to December 1, 2024. Reported onset dates (n=83) ranged from November 4, 2024, to November 30, 2024. Ages ranged from 4 to 90 years with a median age of 24. Sixty of 88 cases (68%) were female. Outcome information was available for 74 cases, of which 36 (49%) were hospitalized. There were 7 reported cases of HUS, and 1 death attributed to this outbreak.

A case in this investigation was defined as infection with *E. coli* O157:H7 with an isolate related to the outbreak strain within 0-4 alleles by cgMLST and isolation date ranging from November 7 to December 1, 2024.

This outbreak was related to six historical investigations: 2302MLEXH-1, 2210MLEXH-3, 2210MLEXH-2, 2209MLEXH-1, 2112MLEXH-1, and 2106CAEXH-1. The only vehicle identified was for 2112MLEXH-1, which was closed with a confirmed vehicle of organic power greens. The NCBI tree for this strain included numerous nonclinical beef isolates.

This outbreak was coded following notification from colleagues in MO after they identified and investigated multiple illness linked to events catered by the same MO-based caterer. These events occurred between November 6 and November 8. All events included the same menu items with a few modifications. MO colleagues conducted a retrospective cohort study at 2 of the events and found that salads were the only statistically significant menu item across both events. Salads contained an iceberg/romaine lettuce blend, carrots, purple cabbage, onions, canned pimento, canned artichokes, parmesan cheese, and a house made salad dressing.

In total, 7 subclusters were identified across the multistate outbreak. These included 3 MO catered events, an OH secondary school, an IN restaurant, and IL restaurant, and an IL event catered by a different MO-based caterer. Salads were the common link across all 7 subclusters, and cases in all subclusters ate an iceberg/romaine lettuce blend. CDC deployed a focused questionnaire on November 26, 2024; 27 questionnaires were returned. Epi information was available for 65 cases, of which 60 (95%) reported consuming any type of leafy green prior to illness. Of 57 cases who could remember the exact type of leafy green consumed, 50 (88%) consumed romaine lettuce. This is statistically significantly higher than the background rate of 49% from the FoodNet Population survey.

A traceback investigation was initiated in response to an E. coli O157 outbreak with leafy greens as the suspected vehicle. Each case included in the traceback investigation reported consumption of leafy greens prior to illness onset. Based on information available at the points of service (POS), the traceback focused on iceberg and romaine lettuce. The investigation consisted of three traceback legs representing twenty-eight cases and five POS. The three traceback legs identified four distribution centers, one broker, two processors, one grower, and one ranch. The traceback investigation determined that a sole processor sourced romaine lettuce from a single grower that would have been available at all points of service during the timeframe of interest. Additionally, romaine lettuce supplied to four of the five POS was traced back to a common ranch and lot. Through analysis of records, four lot of romaine lettuce were implicated, resulting in confirmation of romaine lettuce as the vehicle.

Epidemiologic and traceback data supported the conclusion that romaine lettuce was the source of illnesses in this outbreak. CDC closed this investigation on January 15, 2025, following the elapsing of the surveillance reporting lag period and lack of new uploads. CDC closed this investigation as an outbreak with a confirmed vehicle of romaine lettuce. This outbreak will be reported to NORS with NORS ID: 511856.

Thank you all for your help with this investigation!