



RESEARCH SUMMARIES

FOODBORNE ILLNESSES FROM LEAFY GREENS IN THE UNITED STATES: ATTRIBUTION, BURDEN, AND COST

Leafy greens are responsible for up to 9.18% of all known pathogen-caused foodborne illnesses, or 2,307,558 illnesses annually. This leads to health-related costs of up to \$5.278 billion.

Models	# of illnesses	90% CI ^b	% in all leafy	# of illnesses	90% CI	% in all leafy
	M1 ^d			M2		
Lettuce family	1,284,967	(444,998–2,675,127)	75.7	1,357,179	(632,961–2,398,639)	58.8
Other Lettuce ^e	1,022,804	(383,758–2,072,926)	60.3	1,195,884	(582,398–2,078,236)	51.8
Romaine ^e	228,645	(56,712–516,416)	13.5	132,959	(32,076–278,025)	5.8
Iceberg ^e	33,518	(4,529–85,786)	2.0	28,336	(18,538–42,426)	1.2
Cabbage	136,591	(1,579–436,759)	8.1	221,661	(50,709–467,442)	9.6
Spinach	90,721	(12,128–220,415)	5.3	46,053	(12,374–94,478)	2.0
Kale	6,157	(333–17,987)	0.4	3,002	(2,028–4,402)	0.1
Parsley	126,434	(7–400,015)	7.5	68,674	(65,729–70,496)	2.9
Arugula	7,862	(373–23,722)	0.5	1,978	/	0.1
Other Leafy	44,011	(33,704–64,648)	2.6	309,907	(289,429–339,352)	13.4
Mixed Leafy	0	/	0	300,093	(6,628–203,282)	13.0
All Leafy	1,696,756	(1,007,926–3,139,791)	100	2,307,558	(1,077,815–4,075,642)	100

Models	Attribution percentage (Ranking)		# of illnesses (Ranking)		Economic Cost (million \$) (Ranking)	
	M1 ^e	M2	M1	M2	M1	M2
Pathogen^a						
<i>Campylobacter</i> spp.	4.43 (6)	6.66 (6)	37,425 (3)	56,259 (2)	550.64 (2)	827.75 (1)
STEC O157:H7	32.56 (2)	24.14 (1)	20,561 (5)	15,244 (6)	534.15 (3)	396.02 (4)
STEC Non-O157	46.94 (1)	21.68 (2)	52,931 (2)	24,449 (3)	175.13 (6)	80.89 (7)
<i>Salmonella</i> , nontyphoidal	2.47 (7)	2.13 (9)	25,356 (4)	21,926 (4)	468.96 (4)	405.52 (3)
Norovirus	13.00 (3)	10.72 (4)	710,121 (1)	585,688 (1)	799.42 (1)	659.34 (2)

Norovirus leads in leafy green-associated illnesses, followed by STEC Non-O157, and *Campylobacter* spp.

Norovirus, *Campylobacter* spp., STEC O157:H7, and *Salmonella* (nontyphoidal) represent the largest economic costs from contaminated leafy greens.



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MORE INFORMATION

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