

Table 1. Meta-analytical data of the mean reduction of *E. coli* O157:H7 counts produced by washing fresh produce with sanitizing agents, along with extracted study characteristics of sanitizer concentration, washing time and temperature, type of food, and sample size N used to estimate a single log-reduction value and its standard error

Sanitizer	Concent (%)	Time (min)	Temp (°C)	N	Reduction (log CFU/g)	St. Error (log CFU/g)	Food	Source		
AA	0.01000	2.0	50	3	2.000	0.115	babyspinach	(1)		
	0.01000	5.0	22	3	1.400	0.000				
	0.01000	5.0	40	3	1.800	0.115				
	0.02000	2.0	50	3	2.000	0.115				
	0.02000	5.0	22	3	1.500	0.115				
	0.02000	5.0	40	3	1.700	0.115				
ASC	0.01000	1.0	5	3	1.392	0.080	cilantro	(2)		
	0.02500	1.0	5	3	2.091	0.159				
	0.05000	1.0	5	3	2.481	0.088				
	0.10000	1.0	5	3	3.857	0.199				
	0.01000	1.0	22	3	3.800	0.112	carrot	(3)		
	0.01000	1.0	22	3	2.900	0.064				
	0.02500	1.0	22	3	5.100	0.071				
	0.02500	1.0	22	3	5.000	0.071				
	0.05000	1.0	22	3	5.600	0.064				
	0.05000	1.0	22	3	5.300	0.071				
	0.01000	1.0	5	3	1.470	0.088			tatsoi	(4)
	0.01000	1.5	5	3	1.500	0.058				
	0.01000	2.0	5	3	1.490	0.072				
0.03000	1.0	5	3	1.590	0.083					
0.03000	1.5	5	3	1.820	0.053					
0.03000	2.0	5	3	1.930	0.121					
0.05000	1.0	5	3	1.960	0.058					
0.05000	1.5	5	3	1.760	0.088					
0.05000	2.0	5	3	2.080	0.062					
Bzc	0.01000	1.0	22	6	0.390	0.466	lettuce	(5)		
	0.01000	1.0	22	6	0.390	0.400				
	0.01000	1.0	22	6	2.060	0.757			tomato	
	0.01000	1.0	22	6	2.460	0.731				
CA	0.60000	1.0	5	3	0.835	0.056	cilantro	(2)		
	0.01000	2.0	50	3	2.200	0.115			babyspinach	(1)
	0.01000	2.0	50	3	2.200	0.058				
	0.01000	5.0	22	3	1.500	0.000				
	0.01000	5.0	40	3	2.300	0.115				
	0.01000	5.0	22	3	1.300	0.058				
	0.01000	5.0	40	3	2.100	0.115				
	0.02000	2.0	50	3	2.100	0.058				
	0.02000	5.0	22	3	1.500	0.173				
	0.02000	5.0	40	3	2.000	0.115				
	0.01000	3.0	23	3	1.450	0.361	spinach	(6)		
	0.00300	5.0	20	6	0.500	0.139	lettuce	(7)		

	0.00300	10.0	20	6	0.990	0.237		
	0.00300	20.0	20	6	1.550	0.261		
	0.00300	30.0	20	6	1.890	0.376		
	0.00500	5.0	20	6	0.740	0.208		
	0.00500	10.0	20	6	1.080	0.204		
	0.00500	20.0	20	6	1.570	0.192		
	0.00500	30.0	20	6	2.050	0.127		
	0.00700	5.0	20	6	0.910	0.110		
	0.00700	10.0	20	6	1.270	0.118		
	0.00700	20.0	20	6	2.370	0.269		
	0.00700	30.0	20	6	2.560	0.167		
	0.01000	5.0	20	6	1.150	0.225		
	0.01000	10.0	20	6	1.440	0.135		
	0.01000	20.0	20	6	2.770	0.176		
	0.01000	30.0	20	6	2.910	0.082		
	0.02000	5.0	20	6	1.350	0.225		
	0.02000	10.0	20	6	1.640	0.024		
	0.02000	20.0	20	6	2.840	0.151		
	0.02000	30.0	20	6	3.070	0.094		
Ca-Oy	0.10000	5.0	25	8	5.100	0.146	tomato	(8)
	0.10000	5.0	25	8	4.700	0.127		
	0.10000	5.0	25	8	1.500	0.112		
	0.10000	5.0	25	8	1.600	0.112		
Ca-SS	0.10000	5.0	25	8	5.200	0.035	tomato	(8)
	0.10000	5.0	25	8	4.800	0.071		
	0.10000	5.0	25	8	1.700	0.180		
	0.10000	5.0	25	8	2.000	0.180		
CH	0.00500	0.5	4	6	1.900	NR	broccoli	(9)
	0.00500	2.0	4	6	2.080	NR		
	0.00500	5.0	4	6	2.260	NR		
	0.01000	0.5	4	6	1.700	NR		
	0.01000	2.0	4	6	2.350	NR		
	0.01000	2.0	4	4	2.340	NR		
	0.01000	2.0	8	4	2.480	NR		
	0.01000	2.0	15	4	2.270	NR		
	0.01000	2.0	20	4	2.250	NR		
	0.01000	2.0	25	4	2.260	NR		
	0.01000	5.0	4	6	2.540	NR		
	0.00500	0.5	4	8	2.370	NR	lettuce	
	0.00500	0.5	4	8	1.920	NR		
	0.00500	2.0	4	8	2.360	NR		
	0.00500	2.0	4	8	2.250	NR		
	0.00500	5.0	4	8	2.670	NR		
	0.00500	5.0	4	8	2.270	NR		
	0.01000	0.5	4	8	2.570	NR		
	0.01000	0.5	4	8	1.900	NR		
	0.01000	2.0	4	8	2.780	NR		
	0.01000	2.0	4	8	2.050	NR		

	0.01000	5.0	4	8	2.660	NR		
	0.01000	5.0	4	8	2.210	NR		
	0.02000	0.5	25	6	1.000	NR	spinach	(10)
Citrox	0.12500	1.0	8	3	0.100	0.058	lettuce	(11)
	0.25000	1.0	8	3	0.200	0.058		
	0.25000	1.0	8	3	0.400	0.058		
	0.37500	1.0	8	3	1.030	0.173		
	0.37500	1.0	8	3	1.200	0.058		
	0.50000	1.0	8	3	1.300	0.115		
	0.50000	1.0	8	3	2.200	0.173		
	0.50000	1.0	8	3	1.600	0.082		
CD	0.00043	30.0	22	6	3.400	NR	lettuce	(12)
	0.00067	60.0	22	6	4.400	NR		
	0.00087	180.0	22	6	6.900	NR		
	0.00005	2.0	22	6	1.200	NR	strawberry	(13)
	0.00005	10.0	22	6	2.400	NR		
	0.00015	10.0	22	6	3.000	NR		
	0.00030	10.0	22	6	4.500	NR		
	0.00050	2.0	22	6	1.800	NR		
	0.00050	10.0	22	6	4.600	NR		
	0.00005	2.0	22	6	0.600	NR	cantaloupe	
	0.00005	10.0	22	6	2.700	NR		
	0.00010	2.0	22	6	1.100	NR		
	0.00010	10.0	22	6	2.700	NR		
	0.00015	2.0	22	6	1.100	NR		
	0.00015	10.0	22	6	2.800	NR		
	0.00030	2.0	22	6	2.200	NR		
	0.00030	10.0	22	6	3.400	NR		
	0.00050	2.0	22	6	2.200	NR		
	0.00050	10.0	22	6	4.600	NR		
	0.00012	30.0	25	6	0.700	NR	spinach	(10)
	0.00021	60.0	25	6	0.700	NR		
	0.00014	10.5	22	9	1.530	NR	cabbage	(14)
	0.00027	20.0	22	9	2.680	NR		
	0.00041	30.8	22	9	3.130	NR		
	0.00014	10.5	22	9	2.030	NR	carrot	
	0.00027	20.0	22	9	3.180	NR		
	0.00041	30.8	22	9	5.620	NR		
	0.00014	10.5	22	9	0.640	NR	lettuce	
	0.00027	20.0	22	9	0.720	NR		
	0.00041	30.8	22	9	1.570	NR		
DA	0.00200	2.0	22	6	0.610	0.212	romainelettuce	(15)
	0.00200	2.0	22	6	0.690	0.103		
DioW	0.00000	5.0	25	6	0.140	0.294	rocketleaves	(16)
	0.00000	0.5	4	6	1.770	NR	broccoli	(9)
	0.00000	2.0	4	6	1.560	NR		
	0.00000	5.0	4	6	1.920	NR		
	0.00000	0.5	4	8	1.670	NR	lettuce	

	0.00000	0.5	4	8	1.340	NR		
	0.00000	2.0	4	8	1.730	NR		
	0.00000	2.0	4	8	1.800	NR		
	0.00000	5.0	4	8	1.750	NR		
	0.00000	5.0	4	8	1.480	NR		
	0.00000	2.0	50	3	1.600	0.115	babyspinach	(1)
	0.00000	5.0	22	3	1.100	0.058		
	0.00000	5.0	40	3	1.100	0.115		
	0.01000	2.0	50	3	1.300	0.115		
	0.01000	5.0	22	3	0.900	0.058		
	0.01000	5.0	40	3	1.200	0.115		
	0.00000	2.0	22	3	0.770	0.258	romainelettuce	(15)
	0.00000	2.0	22	3	0.480	0.092		
	0.00000	3.0	23	3	0.850	0.224	spinach	(6)
	0.00000	3.0	20	3	0.420	0.223	mungbean	(17)
	0.00000	5.0	20	3	0.480	0.301		
	0.00000	10.0	20	3	0.330	0.288		
	0.00000	15.0	20	3	0.360	0.194		
	0.00000	3.0	20	3	0.410	0.270	mungbeansprouts	
	0.00000	5.0	20	3	0.580	0.362		
	0.00000	10.0	20	3	0.510	0.401		
	0.00000	15.0	20	3	0.360	0.348		
DisW	0.00000	5.0	15	3	0.300	0.082	buckwheat	(18)
	0.00000	3.0	23	6	0.330	0.070	chinesecabbage	(19)
	0.00000	3.0	23	6	0.380	0.070	lettuce	
	0.00000	3.0	23	6	0.230	0.040	sesameleaf	
	0.00000	3.0	23	6	0.260	0.020	spinach	
	0.00000	5.0	25	8	3.100	0.146	tomato	(8)
	0.00000	5.0	25	8	3.100	0.224		
	0.00000	5.0	25	8	1.300	0.146		
	0.00000	5.0	25	8	1.300	0.098		
	0.00000	3.0	25	12	0.800	0.104	cabbage	
	0.00000	3.0	25	12	0.700	0.155		
	0.00000	3.0	25	12	0.500	0.122	chinesecabbage	(20)
	0.00000	3.0	25	12	0.700	0.163		
	0.00000	3.0	25	12	0.800	0.082	lettuce	
	0.00000	3.0	25	12	0.900	0.104		
	0.00000	3.0	25	12	0.800	0.041	spinach	
	0.00000	3.0	25	12	1.000	0.183		
	0.00000	2.0	55	9	0.590	NR	apple	(21)
	0.00000	0.3	25	6	0.700	NR	spinach	(10)
	0.00000	1.5	25	6	0.340	0.024	mungbeansprouts	(22)
	0.00000	3.0	25	6	0.400	0.041		
	0.00000	2.0	22	3	1.040	0.408	lettuce	(23)
	0.00000	5.0	20	6	0.300	0.069	lettuce	(7)
	0.00000	5.0	22	6	0.700	NR	apple	(24)
	0.00000	5.0	22	6	1.000	NR		

	0.00000	1.0	22	6	0.180	0.417	lettuce	(5)
	0.00000	1.0	22	6	0.410	0.400		
	0.00000	1.0	22	6	1.320	0.771	tomato	
	0.00000	1.0	22	6	1.540	0.794		
EHS	0.00200	2.0	22	6	0.550	0.137	romainelettuce	(15)
	0.00200	2.0	22	6	0.590	0.068		
HP	0.01000	2.0	50	3	1.800	0.058	babyspinach	(1)
	0.01000	2.0	50	3	1.900	0.231		
	0.01000	5.0	22	3	1.100	0.115		
	0.01000	5.0	40	3	1.600	0.115		
	0.01000	5.0	22	3	1.100	0.000		
	0.01000	5.0	40	3	1.500	0.058		
	0.02000	2.0	50	3	2.200	0.058		
	0.02000	5.0	22	3	1.500	0.115		
	0.02000	5.0	40	3	1.900	0.173		
LA	0.01000	2.0	50	3	2.300	0.173	babyspinach	(1)
	0.01000	2.0	50	3	2.500	0.173		
	0.01000	5.0	22	3	1.900	0.115		
	0.01000	5.0	40	3	2.700	0.115		
	0.01000	5.0	22	3	2.100	0.058		
	0.01000	5.0	40	3	2.700	0.058		
	0.02000	2.0	50	3	2.000	0.173		
	0.02000	5.0	22	3	1.700	0.058		
	0.02000	5.0	40	3	2.400	0.173		
	0.10000	5.0	25	8	2.700	0.098	tomato	(8)
	0.10000	5.0	25	8	2.900	0.127		
	0.10000	5.0	25	8	1.500	0.146		
	0.10000	5.0	25	8	1.700	0.146		
	0.20000	1.0	8	3	0.200	0.058	lettuce	(11)
	0.20000	1.0	8	3	0.100	0.058		
	0.40000	1.0	8	3	0.200	0.058		
	0.40000	1.0	8	3	0.300	0.115		
	0.80000	1.0	8	3	0.100	0.058		
	0.80000	1.0	8	3	0.200	0.058		
	1.60000	1.0	8	3	0.600	0.058		
	1.60000	1.0	8	3	0.500	0.058		
	1.60000	1.0	8	3	1.500	0.129		
	0.02000	0.5	55	6	2.700	NR	spinach	(10)
	0.00300	5.0	20	6	0.530	0.069	lettuce	(7)
	0.00300	10.0	20	6	0.730	0.110		
	0.00300	20.0	20	6	1.870	0.245		
	0.00300	30.0	20	6	2.510	0.159		
	0.00500	5.0	20	6	0.670	0.131		
	0.00500	10.0	20	6	1.190	0.245		
	0.00500	20.0	20	6	1.880	0.216		
	0.00500	30.0	20	6	2.860	0.127		
	0.00700	5.0	20	6	0.970	0.225		
	0.00700	10.0	20	6	1.260	0.184		

	0.00700	20.0	20	6	1.920	0.122		
	0.00700	30.0	20	6	3.090	0.106		
	0.01000	5.0	20	6	1.030	0.167		
	0.01000	10.0	20	6	1.570	0.278		
	0.01000	20.0	20	6	2.070	0.388		
	0.01000	30.0	20	6	3.420	0.302		
	0.02000	5.0	20	6	1.740	0.155		
	0.02000	10.0	20	6	2.220	0.408		
	0.02000	20.0	20	6	2.390	0.122		
	0.02000	30.0	20	6	3.560	0.220		
	0.02000	5.0	22	6	1.650	NR	apple	(24)
	0.02000	5.0	22	6	2.100	NR		
	0.01000	1.0	22	6	1.710	0.552	lettuce	(5)
	0.01000	1.0	22	6	1.510	0.449		
	0.00200	1.0	22	6	2.190	0.754		
	0.00200	1.0	22	6	2.540	0.769		
MA	0.01000	2.0	50	3	2.200	0.115	babyspinach	(1)
	0.01000	2.0	50	3	2.200	0.115		
	0.01000	5.0	22	3	1.700	0.115		
	0.01000	5.0	40	3	2.300	0.115		
	0.01000	5.0	22	3	1.700	0.000		
	0.01000	5.0	40	3	2.400	0.231		
	0.02000	2.0	50	3	2.500	0.231		
	0.02000	5.0	22	3	1.800	0.173		
	0.02000	5.0	40	3	2.300	0.231		
	0.00300	5.0	20	6	0.570	0.057	lettuce	(7)
	0.00300	10.0	20	6	0.970	0.041		
	0.00300	20.0	20	6	1.390	0.269		
	0.00300	30.0	20	6	1.610	0.041		
	0.00500	5.0	20	6	0.770	0.078		
	0.00500	10.0	20	6	1.110	0.139		
	0.00500	20.0	20	6	1.570	0.286		
	0.00500	30.0	20	6	1.930	0.053		
	0.00700	5.0	20	6	1.230	0.139		
	0.00700	10.0	20	6	1.250	0.135		
	0.00700	20.0	20	6	1.710	0.102		
	0.00700	30.0	20	6	2.280	0.188		
	0.01000	5.0	20	6	1.450	0.090		
	0.01000	10.0	20	6	1.450	0.233		
	0.01000	20.0	20	6	2.190	0.143		
	0.01000	30.0	20	6	3.280	0.159		
	0.02000	5.0	20	6	1.550	0.102		
	0.02000	10.0	20	6	1.850	0.057		
	0.02000	20.0	20	6	2.540	0.090		
	0.02000	30.0	20	6	3.790	0.069		
OW	0.04640	3.0	25	12	0.800	0.104	cabbage	(22)
	0.04640	3.0	25	12	0.900	0.104		
	0.04640	3.0	25	12	0.600	0.104	chinesecabbage	

	0.04640	3.0	25	12	0.700	0.185		
	0.04640	3.0	25	12	1.000	0.104	lettuce	
	0.04640	3.0	25	12	0.700	0.155		
	0.04640	3.0	25	12	0.700	0.065	spinach	
	0.04640	3.0	25	12	0.700	0.176		
	0.00010	15.0	12	6	1.100	NR	spinach	(10)
	0.00010	30.0	12	6	0.600	NR		
	0.00050	3.0	23	3	1.150	0.361	spinach	(6)
Oz	0.01000	3.0	25	12	0.500	0.104	cabbage	(20)
	0.01000	3.0	25	12	0.200	0.155		
	0.01000	3.0	25	12	0.000	0.122	chinesecabbage	
	0.01000	3.0	25	12	0.000	0.208		
	0.01000	3.0	25	12	0.100	0.065	lettuce	
	0.01000	3.0	25	12	0.000	0.065		
	0.01000	3.0	25	12	0.000	0.041	spinach	
	0.01000	3.0	25	12	0.000	0.183		
PAA	0.00800	5.0	25	6	1.200	0.303	rocketleaves	(16)
	0.00300	10.0	25	30	2.130	0.128	lettuce	(25)
	0.00400	10.0	25	30	2.330	0.097		
	0.00500	10.0	25	30	2.470	0.148		
	0.00300	10.0	25	30	3.860	0.217	tomato	
	0.00400	10.0	25	30	4.390	0.283		
	0.00500	10.0	25	30	4.480	0.268		
	0.00800	0.5	25	6	1.100	NR	spinach	(10)
	0.00250	1.5	25	6	1.450	0.143	mungbeansprouts	(22)
	0.00250	3.0	25	6	1.720	0.065		
	0.00510	1.5	25	6	1.500	0.012		
	0.00510	3.0	25	6	2.200	0.102		
	0.00700	1.5	25	6	2.200	0.082		
	0.00700	3.0	25	6	2.400	0.029		
	0.00700	3.0	25	3	2.300	0.058		
	0.00800	2.0	22	3	1.070	0.516	lettuce	(23)
	0.00400	2.0	22	3	1.520	0.184	carrot	(3)
	0.00400	2.0	22	3	1.160	0.184		
	0.00400	2.0	22	3	0.100	0.071		
	0.00400	2.0	22	3	0.200	0.112		
Phy	0.10000	5.0	25	8	5.100	0.098	tomato	(8)
	0.10000	5.0	25	8	4.800	0.079		
	0.10000	5.0	25	8	1.400	0.146		
	0.10000	5.0	25	8	1.700	0.146		
SAEW	0.00215	3.0	23	6	1.220	0.045	chinesecabbage	(19)
	0.00215	3.0	23	6	1.250	0.090		
	0.00215	3.0	23	6	1.230	0.024	lettuce	
	0.00215	3.0	23	6	1.360	0.050		
	0.00215	3.0	23	6	1.150	0.053	sesameleaf	
	0.00215	3.0	23	6	1.200	0.120		
	0.00215	3.0	23	6	1.120	0.069	spinach	

	0.00215	3.0	23	6	1.150	0.070		
	0.00214	5.0	20	16	2.850	0.013	daikon	(26)
	0.00214	5.0	20	16	2.840	0.023	lettuce	
	0.00050	3.0	23	3	2.550	0.283	spinach	(6)
	0.00500	3.0	23	3	2.350	0.361		
	0.00200	3.0	20	3	1.530	0.233	mungbean	(17)
	0.00200	5.0	20	3	1.620	0.248		
	0.00200	10.0	20	3	1.750	0.371		
	0.00200	15.0	20	3	1.780	0.213		
	0.00400	3.0	20	3	2.310	0.341		
	0.00400	5.0	20	3	2.350	0.336		
	0.00400	10.0	20	3	2.370	0.358		
	0.00400	15.0	20	3	2.520	0.121		
	0.00600	3.0	20	3	2.930	0.328		
	0.00600	5.0	20	3	2.960	0.284		
	0.00600	10.0	20	3	3.060	0.290		
	0.00600	15.0	20	3	3.400	0.359		
	0.00800	3.0	20	3	3.980	0.196		
	0.00800	5.0	20	3	4.050	0.248		
	0.00800	10.0	20	3	4.060	0.297		
	0.00800	15.0	20	3	4.240	0.323		
	0.00200	3.0	20	3	1.320	0.285	mungbeansprouts	
	0.00200	5.0	20	3	1.350	0.186		
	0.00200	10.0	20	3	1.500	0.513		
	0.00200	15.0	20	3	1.560	0.458		
	0.00400	3.0	20	3	2.250	0.388		
	0.00400	5.0	20	3	2.260	0.340		
	0.00400	10.0	20	3	2.380	0.576		
	0.00400	15.0	20	3	2.400	0.406		
	0.00800	3.0	20	3	3.320	0.277		
	0.00800	5.0	20	3	3.410	0.277		
	0.00800	10.0	20	3	3.440	0.341		
	0.00800	15.0	20	3	3.350	0.550		
	0.01200	3.0	20	3	4.290	0.253		
	0.01200	5.0	20	3	4.370	0.354		
	0.01200	10.0	20	3	4.390	0.288		
	0.01200	15.0	20	3	4.510	0.297		
SC	0.10000	1.0	5	3	2.990	0.366	cilantro	(2)
SH	0.02000	1.0	5	3	1.074	0.103	cilantro	(2)
	0.02000	5.0	25	6	0.770	0.370	rocketleaves	(16)
	0.02000	2.0	50	3	1.600	0.115	babyspinach	(1)
	0.02000	5.0	22	3	1.200	0.058		
	0.02000	5.0	40	3	1.400	0.115		
	0.01000	5.0	25	8	5.200	0.050	tomato	(8)
	0.01000	5.0	25	8	4.800	0.071		
	0.01000	5.0	25	8	1.400	0.146		
	0.01000	5.0	25	8	1.200	0.180		
	0.01000	3.0	25	12	1.800	0.183	cabbage	

0.01000	3.0	25	12	1.800	0.104			
0.01000	3.0	25	12	0.900	0.122	chinesecabbage		
0.01000	3.0	25	12	1.000	0.208			
0.01000	3.0	25	12	1.600	0.129	lettuce		
0.01000	3.0	25	12	1.400	0.183			
0.01000	3.0	25	12	1.100	0.065	spinach		
0.01000	3.0	25	12	1.100	0.208			
0.01000	5.0	20	16	2.610	0.008	chinesececery	(26)	
0.01000	5.0	20	16	2.790	0.010	daikon		
0.01000	5.0	20	16	2.760	0.020	lettuce		
0.00250	10.0	25	30	1.000	0.099	lettuce	(25)	
0.00500	10.0	25	30	1.050	0.091			
0.00750	10.0	25	30	1.290	0.089			
0.00250	10.0	25	30	2.270	0.104	tomato		
0.00500	10.0	25	30	2.670	0.137			
0.00750	10.0	25	30	3.070	0.144			
0.01000	2.0	22	6	0.890	0.130	romainelettuce	(15)	
0.01000	2.0	22	6	0.860	0.099			
0.02000	2.0	22	3	0.870	0.081			
0.02000	2.0	22	3	0.800	0.086			
0.00100	1.0	8	3	0.800	0.289	lettuce	(11)	
0.00100	1.0	8	3	1.200	0.173			
0.00200	1.0	8	3	0.900	0.058			
0.00200	1.0	8	3	1.000	0.058			
0.00400	1.0	8	3	2.100	0.129			
0.01060	1.5	25	6	1.500	0.041	mungbeansprouts	(22)	
0.01060	3.0	25	6	1.950	0.069			
0.01300	1.5	25	6	1.700	0.139			
0.01300	3.0	25	6	1.900	0.069			
0.01700	1.5	25	6	1.800	0.061			
0.01700	3.0	25	6	2.100	0.061			
0.01700	3.0	25	3	2.000	0.058			
0.00200	2.0	22	3	0.960	0.408	lettuce	(23)	
0.01000	3.0	23	3	1.750	0.362	spinach	(6)	
0.02000	2.0	22	3	1.270	0.086	carrot	(3)	
0.02000	2.0	22	3	1.150	0.086			
0.02000	2.0	22	3	0.600	0.071			
0.02000	2.0	22	3	0.300	0.112			
0.01000	2.0	5	3	1.370	0.083	tatsoi	(4)	
0.02000	1.0	22	6	1.310	0.460	lettuce	(5)	
0.02000	1.0	22	6	1.400	0.402			
0.02000	1.0	22	6	2.560	0.749	tomato		
0.02000	1.0	22	6	2.650	0.752			
TA	0.01000	2.0	50	3	2.000	0.173	babyspinach	(1)
	0.01000	5.0	22	3	1.500	0.058		
	0.01000	5.0	40	3	2.200	0.231		
	0.02000	2.0	50	3	2.100	0.058		
	0.02000	5.0	22	3	1.700	0.173		

	0.02000	5.0	40	3	2.100	0.115		
Tsunami	0.01250	1.0	8	3	1.500	0.115	lettuce	(11)
	0.01250	1.0	8	3	2.600	0.404		
	0.02500	1.0	8	3	1.900	0.058		
	0.02500	1.0	8	3	2.900	0.289		
	0.03750	1.0	8	3	3.300	0.289		
	0.05000	1.0	8	3	2.200	0.238		
Water	0.00000	5.0	20	16	0.610	0.010	daikon	(26)
	0.00000	5.0	20	16	0.600	0.020	lettuce	
	0.00000	10.0	25	30	0.040	0.099	lettuce	(25)
	0.00000	10.0	25	30	0.000	0.000	tomato	
	0.00000	1.0	8	3	0.500	0.183	lettuce	(11)
	0.00000	2.0	22	3	0.390	0.106	carrot	(3)
	0.00000	2.0	22	3	0.200	0.114		
	0.00000	2.0	22	3	0.200	0.112		
	0.00000	2.0	22	3	0.000	0.064		
	0.00000	2.0	5	3	0.200	0.037	tatsoi	(4)

NR: Not reported in the respective primary study

Table 2. Meta-analytical data of the mean reduction of *Listeria monocytogenes* counts produced by washing fresh produce with sanitizing agents, along with extracted study characteristics of sanitizer concentration, washing time and temperature, type of food, and sample size N used to estimate a single log-reduction value and its standard error

Sanitizer	Concent (%)	Time (min)	Temp (°C)	N	Reduction (log CFU/g)	St. Error (log CFU/g)	Food	Source
ASC	0.05000	10.0	20	6	2.510	0.233	carrot	(27)
	0.05000	10.0	20	6	2.890	0.102	cherry tomato	
	0.05000	10.0	20	6	3.350	0.020	cucumber	
	0.01000	1.0	22	3	4.200	0.200	carrot	(3)
	0.01000	1.0	22	3	4.300	0.206		
	0.02500	1.0	22	3	4.300	0.206		
	0.02500	1.0	22	3	4.400	0.202		
	0.05000	1.0	22	3	4.400	0.206		
0.05000	1.0	22	3	4.500	0.202			
CA	0.01000	3.0	23	3	1.800	0.212	spinach	(6)
	0.00300	5.0	20	6	0.560	0.065	lettuce	(7)
	0.00300	10.0	20	6	0.570	0.131		
	0.00300	20.0	20	6	0.800	0.045		
	0.00300	30.0	20	6	1.180	0.204		
	0.00500	5.0	20	6	0.710	0.078		
	0.00500	10.0	20	6	0.890	0.220		
	0.00500	20.0	20	6	1.050	0.073		
	0.00500	30.0	20	6	1.880	0.278		
	0.00700	5.0	20	6	1.140	0.204		
	0.00700	10.0	20	6	0.970	0.053		
	0.00700	20.0	20	6	1.930	0.278		
	0.00700	30.0	20	6	1.910	0.241		
	0.01000	5.0	20	6	1.350	0.171		
	0.01000	10.0	20	6	1.520	0.245		
	0.01000	20.0	20	6	2.120	0.208		
	0.01000	30.0	20	6	2.490	0.294		
	0.02000	5.0	20	6	1.460	0.073		
	0.02000	10.0	20	6	1.650	0.159		
	0.02000	20.0	20	6	2.010	0.135		
0.02000	30.0	20	6	3.120	0.363			
CD	0.00043	30.0	22	6	5.000	NR	lettuce	(12)
	0.00067	60.0	22	6	5.200	NR		
	0.00087	180.0	22	6	5.400	NR		
	0.00005	2.0	22	6	0.800	NR	strawberry	(13)
	0.00005	10.0	22	6	2.300	NR		
	0.00030	10.0	22	6	4.600	NR		
	0.00050	2.0	22	6	2.400	NR		
	0.00050	10.0	22	6	4.700	NR		
	0.00005	2.0	22	6	1.200	NR	cantaloupe	
	0.00005	10.0	22	6	3.300	NR		
0.00010	2.0	22	6	1.800	NR			

	0.00010	10.0	22	6	3.200	NR	cantaloupe	(28)
	0.00015	2.0	22	6	2.100	NR		
	0.00015	10.0	22	6	3.700	NR		
	0.00030	2.0	22	6	2.100	NR		
	0.00030	10.0	22	6	3.800	NR		
	0.00050	2.0	22	6	2.200	NR		
	0.00050	10.0	22	6	4.300	NR		
	0.00014	10.0	22	9	1.760	NR	cabbage	(14)
	0.00027	19.3	22	9	3.310	NR		
	0.00041	29.3	22	9	3.600	NR		
	0.00014	10.0	22	9	3.280	NR	carrot	
	0.00027	19.3	22	9	5.350	NR		
	0.00041	29.3	22	9	5.880	NR		
	0.00014	10.0	22	9	0.810	NR	lettuce	
	0.00027	19.3	22	9	1.230	NR		
	0.00041	29.3	22	9	1.530	NR		
DioW	0.00000	3.0	23	3	1.000	0.212	spinach	(6)
	0.00000	0.5	25	4	0.000	0.000	lettuce	(29)
	0.00000	1.0	25	4	0.000	0.000		
DisW	0.00000	1.0	4	6	0.580	0.055	broccoli	(30)
	0.00000	1.0	4	6	0.950	0.074	cabbage	
	0.00000	1.0	4	6	0.860	0.297	mungbeansprouts	
	0.00000	3.0	23	6	0.350	0.160	chinesecabbage	(19)
	0.00000	3.0	23	6	0.400	0.070	lettuce	
	0.00000	3.0	23	6	0.320	0.110	sesameleaf	
	0.00000	3.0	23	6	0.200	0.070	spinach	
	0.00000	1.5	25	6	0.370	0.098	mungbeansprouts	(22)
	0.00000	3.0	25	6	0.300	0.135	mungbeansprouts	
	0.00000	5.0	20	6	0.230	0.069	lettuce	(7)
	0.00000	4.0	22	6	0.230	0.153	cucumber	(31)
	0.00000	4.0	22	6	0.240	0.130	lettuce	
	0.00000	4.0	22	6	0.250	0.104		
HP	0.02000	1.0	25	4	3.700	NR	cucumber	(32)
LA	0.00300	5.0	20	6	0.500	0.053	lettuce	(7)
	0.00300	10.0	20	6	0.700	0.155		
	0.00300	20.0	20	6	1.710	0.212		
	0.00300	30.0	20	6	2.520	0.155		
	0.00500	5.0	20	6	0.610	0.049		
	0.00500	10.0	20	6	0.900	0.065		
	0.00500	20.0	20	6	1.740	0.176		
	0.00500	30.0	20	6	2.650	0.200		
	0.00700	5.0	20	6	0.880	0.041		
	0.00700	10.0	20	6	1.130	0.037		
	0.00700	20.0	20	6	2.030	0.171		
	0.00700	30.0	20	6	3.030	0.082		
	0.01000	5.0	20	6	1.170	0.045		
	0.01000	10.0	20	6	1.200	0.057		

	0.01000	20.0	20	6	2.140	0.241		
	0.01000	30.0	20	6	3.450	0.102		
	0.02000	5.0	20	6	1.300	0.045		
	0.02000	10.0	20	6	1.940	0.151		
	0.02000	20.0	20	6	2.570	0.192		
	0.02000	30.0	20	6	3.950	0.106		
MA	0.00300	5.0	20	6	0.560	0.090	lettuce	(7)
	0.00300	10.0	20	6	0.900	0.090		
	0.00300	20.0	20	6	1.440	0.261		
	0.00300	30.0	20	6	1.930	0.037		
	0.00500	5.0	20	6	0.890	0.082		
	0.00500	10.0	20	6	1.320	0.176		
	0.00500	20.0	20	6	2.020	0.102		
	0.00500	30.0	20	6	2.500	0.163		
	0.00700	5.0	20	6	1.410	0.110		
	0.00700	10.0	20	6	1.660	0.176		
	0.00700	20.0	20	6	2.470	0.400		
	0.00700	30.0	20	6	3.390	0.118		
	0.01000	5.0	20	6	1.610	0.102		
	0.01000	10.0	20	6	2.120	0.110		
	0.01000	20.0	20	6	3.330	0.225		
	0.01000	30.0	20	6	5.670	0.163		
	0.02000	5.0	20	6	1.760	0.110		
	0.02000	10.0	20	6	2.640	0.049		
	0.02000	20.0	20	6	3.760	0.351		
	0.02000	30.0	20	6	6.710	0.041		
Nisin	0.00500	1.0	4	6	2.605	0.065	broccoli	(30)
	0.00500	1.0	4	6	2.865	0.086	cabbage	
	0.00500	1.0	4	6	1.235	0.099	mungbeansprouts	
OW	0.00050	3.0	23	3	1.400	0.212	spinach	(6)
PAA	0.00250	1.5	25	6	1.100	0.037	mungbeansprouts	(22)
	0.00250	3.0	25	6	1.500	0.102		
	0.00510	1.5	25	6	1.200	0.114		
	0.00510	3.0	25	6	1.700	0.057		
	0.00700	1.5	25	6	1.500	0.139		
	0.00700	3.0	25	6	1.800	0.163		
	0.00700	3.0	25	3	1.800	0.231		
	0.00400	2.0	22	3	0.800	0.224	carrot	(3)
	0.00400	2.0	22	3	0.600	0.085		
	0.00400	2.0	22	3	0.500	0.200		
	0.00400	2.0	22	3	0.300	0.206		
Pediocin	4.80000	1.0	4	6	1.420	0.067	broccoli	(30)
	4.80000	1.0	4	6	2.095	0.115	cabbage	
	4.80000	1.0	4	6	1.480	0.107	mungbeansprouts	
SAEW	0.00215	3.0	23	6	1.190	0.033	chinesecabbage	(19)
	0.00215	3.0	23	6	1.170	0.060		
	0.00215	3.0	23	6	1.200	0.098	lettuce	
	0.00215	3.0	23	6	1.400	0.140		

	0.00215	3.0	23	6	1.310	0.114	sesameleaf	
	0.00215	3.0	23	6	1.300	0.120		
	0.00215	3.0	23	6	1.480	0.135	spinach	
	0.00215	3.0	23	6	1.400	0.150		
	0.00050	3.0	23	3	2.800	0.250	spinach	(6)
	0.00500	3.0	23	3	2.700	0.335		
SH	0.02000	1.0	25	4	1.488	NR	cucumber	(32)
	0.01000	5.0	20	6	1.750	0.122	carrot	(27)
	0.01000	10.0	20	6	1.900	0.249		
	0.01000	5.0	20	6	1.340	0.053	cherrytomato	
	0.01000	10.0	20	6	1.760	0.110		
	0.01000	5.0	20	6	1.090	0.049	cucumber	
	0.01000	10.0	20	6	1.880	0.212		
	0.01060	1.5	25	6	0.750	0.159	mungbeansprouts	(22)
	0.01060	3.0	25	6	0.800	0.245		
	0.01300	1.5	25	6	0.730	0.196		
	0.01300	3.0	25	6	1.200	0.122		
	0.01700	1.5	25	6	0.760	0.212		
	0.01700	3.0	25	6	1.300	0.106		
	0.01700	3.0	25	3	1.300	0.173		
	0.01000	3.0	23	3	2.100	0.250	spinach	(6)
	0.02000	2.0	22	3	2.200	0.172	carrot	(3)
	0.02000	2.0	22	3	1.100	0.106		
	0.02000	2.0	22	3	2.300	0.206		
	0.02000	2.0	22	3	1.500	0.224		
	0.02000	0.5	25	4	0.780	0.200	lettuce	(29)
	0.02000	1.0	25	4	0.940	0.065		
TSP	0.02000	0.5	25	4	0.000	0.250	lettuce	(29)
	0.02000	1.0	25	4	0.020	0.150		
	0.05000	0.5	25	4	0.000	0.150		
	0.05000	1.0	25	4	0.100	0.050		
Water	0.00000	1.0	80	4	1.990	NR	cucumber	(32)
	0.00000	2.0	22	3	0.100	0.128	carrot	(3)
	0.00000	2.0	22	3	0.100	0.113		
	0.00000	2.0	22	3	0.000	0.361		
	0.00000	2.0	22	3	0.000	0.224		

NR: Not reported in the respective primary study

Table 3. Meta-analytical data of the mean reduction of *Salmonella* spp. counts produced by washing fresh produce with sanitizing agents, along with extracted study characteristics of sanitizer concentration, washing time and temperature, type of food, and sample size N used to estimate a single log-reduction value and its standard error

Sanitizer	Concent (%)	Time (min)	Temp (°C)	N	Reduction (log CFU/g)	St. Error (log CFU/g)	Food	Source
AA	0.00500	5.0	21	9	1.900	0.090	blueberry	(33)
	0.05000	1.0	21	9	2.100	0.060		
	0.05000	5.0	21	9	2.200	0.126		
	0.05000	5.0	21	9	2.400	0.124		
	0.03950	0.2	23	6	1.320	0.286	rocketleaves	(34)
	0.03950	0.2	23	6	2.500	0.793		
	0.03950	15.0	23	6	2.200	0.267		
	0.03950	15.0	23	6	2.100	0.531		
	0.03950	30.0	23	6	2.810	0.150		
	0.03950	30.0	23	6	2.890	0.732		
	0.03950	60.0	23	6	2.490	0.205		
	0.03950	60.0	23	6	3.120	0.901		
	0.03950	0.2	23	6	0.930	0.168		
	0.03950	0.2	23	6	0.920	0.547		
	0.03950	15.0	23	6	1.190	0.214		
	0.03950	15.0	23	6	0.970	0.629		
0.03950	30.0	23	6	1.340	0.296			
0.03950	30.0	23	6	1.280	0.877			
0.03950	60.0	23	6	2.100	0.217			
0.03950	60.0	23	6	2.920	0.843			
ASC	0.05000	10.0	20	6	2.600	0.041	carrot	(27)
	0.05000	10.0	20	6	3.660	0.102	cherrytomato	
	0.05000	10.0	20	6	3.060	0.024	cucumber	
	0.01000	1.0	22	3	5.500	0.156	carrot	(3)
	0.01000	1.0	22	3	5.400	0.120		
	0.12000	1.0	35	3	3.310	0.184	tomato	(37)
	0.12000	1.0	35	3	1.100	0.178		
	0.12000	1.0	35	3	4.310	0.202		
	0.12000	2.0	35	3	3.720	0.273		
	0.12000	2.0	35	3	1.640	0.312		
0.12000	2.0	35	3	4.310	0.202			
CA	0.00500	5.0	21	9	1.900	0.104	blueberry	(33)
	0.05000	5.0	21	9	2.200	0.149		
	0.00300	5.0	20	6	0.870	0.155	lettuce	(7)
	0.00300	10.0	20	6	1.360	0.188		
	0.00300	20.0	20	6	2.050	0.127		
	0.00300	30.0	20	6	2.280	0.090		
	0.00500	5.0	20	6	1.070	0.094		
	0.00500	10.0	20	6	1.550	0.098		
	0.00500	20.0	20	6	2.190	0.041		
0.00500	30.0	20	6	2.330	0.192			

	0.00700	5.0	20	6	1.360	0.114		
	0.00700	10.0	20	6	1.890	0.339		
	0.00700	20.0	20	6	2.340	0.106		
	0.00700	30.0	20	6	2.510	0.343		
	0.01000	5.0	20	6	1.770	0.171		
	0.01000	10.0	20	6	1.920	0.073		
	0.01000	20.0	20	6	2.510	0.122		
	0.01000	30.0	20	6	2.790	0.274		
	0.02000	5.0	20	6	1.810	0.143		
	0.02000	10.0	20	6	2.350	0.180		
	0.02000	20.0	20	6	2.620	0.143		
	0.02000	30.0	20	6	2.940	0.204		
	0.04200	0.2	23	6	1.870	0.537	rocketleaves	(34)
	0.04200	0.2	23	6	1.230	0.561		
	0.04200	15.0	23	6	2.950	0.549		
	0.04200	15.0	23	6	3.170	0.483		
	0.04200	30.0	23	6	3.520	0.709		
	0.04200	30.0	23	6	2.750	0.705		
	0.04200	60.0	23	6	2.470	0.545		
	0.04200	60.0	23	6	4.170	0.294		
	0.04200	0.2	23	6	1.430	0.276	springonion	
	0.04200	0.2	23	6	0.870	0.288		
	0.04200	15.0	23	6	1.700	0.259		
	0.04200	15.0	23	6	1.620	0.290		
	0.04200	30.0	23	6	1.900	0.234		
	0.04200	30.0	23	6	1.690	0.254		
	0.04200	60.0	23	6	2.860	0.284		
	0.04200	60.0	23	6	2.930	0.248		
CH	0.02000	0.5	25	6	0.700	NR	spinach	(10)
CD	0.00050	0.1	25	15	1.900	0.181	tomato	(35)
	0.00050	0.3	25	15	3.500	0.181		
	0.00050	0.5	25	15	3.900	0.077		
	0.00050	1.0	25	15	4.900	0.077		
	0.00043	30.0	22	6	4.300	NR	lettuce	(12)
	0.00067	60.0	22	6	5.300	NR		
	0.00087	180.0	22	6	5.400	NR		
	0.00005	2.0	22	6	0.600	NR	strawberry	(13)
	0.00005	10.0	22	6	2.700	NR		
	0.00015	10.0	22	6	3.000	NR		
	0.00030	10.0	22	6	4.000	NR		
	0.00050	2.0	22	6	1.900	NR		
	0.00050	10.0	22	6	4.300	NR		
	0.00005	2.0	22	6	0.900	NR	cantaloupe	(28)
	0.00005	10.0	22	6	3.200	NR		
	0.00010	2.0	22	6	1.200	NR		
	0.00010	10.0	22	6	3.500	NR		
	0.00015	2.0	22	6	1.500	NR		
	0.00015	10.0	22	6	4.700	NR		

0.00030	2.0	22	6	3.200	NR		
0.00030	10.0	22	6	5.000	NR		
0.00050	2.0	22	6	3.200	NR		
0.00012	30.0	25	6	0.300	NR	spinach	(10)
0.00021	60.0	25	6	0.600	NR		
0.00014	6.0	22	9	3.210	NR	apple	(14)
0.00027	12.0	22	9	4.210	NR		
0.00041	25.0	22	9	4.210	NR		
0.00014	6.4	22	9	1.240	NR	cabbage	
0.00027	12.3	22	9	1.890	NR		
0.00041	20.5	22	9	4.420	NR		
0.00014	6.4	22	9	2.150	NR	carrot	
0.00027	12.3	22	9	3.110	NR		
0.00041	20.5	22	9	5.150	NR		
0.00014	6.4	22	9	1.140	NR	lettuce	
0.00027	12.3	22	9	1.210	NR		
0.00041	20.5	22	9	1.580	NR		
0.00014	5.4	22	9	0.830	NR	onion	
0.00027	10.4	22	9	1.890	NR		
0.00041	20.0	22	9	1.940	NR		
0.00014	5.4	22	9	1.000	NR	peach	
0.00027	10.4	22	9	1.520	NR		
0.00041	20.0	22	9	3.230	NR		
0.00014	6.0	22	9	1.110	NR	tomato	
0.00027	12.0	22	9	2.040	NR		
0.00041	25.0	22	9	4.330	NR		
0.00020	0.2	25	3	0.530	0.098	tomato	(36)
0.00020	0.5	25	3	0.500	0.098		
0.00020	1.0	25	3	0.940	0.122		
0.00020	2.0	25	3	1.250	0.132		
0.00020	3.0	25	3	2.410	0.107		
0.00050	0.2	25	3	1.050	0.122		
0.00050	0.5	25	3	1.040	0.086		
0.00050	1.0	25	3	1.770	0.090		
0.00050	2.0	25	3	1.910	0.075		
0.00050	3.0	25	3	2.430	0.072		
0.00080	0.2	25	3	1.080	0.117		
0.00080	0.5	25	3	2.140	0.117		
0.00080	1.0	25	3	2.940	0.094		
0.00080	2.0	25	3	3.380	0.098		
0.00080	3.0	25	3	3.770	0.075		
0.00100	0.2	25	3	2.710	0.075		
0.00100	0.5	25	3	2.920	0.086		
0.00100	1.0	25	3	3.190	0.132		
0.00100	2.0	25	3	3.860	0.094		
0.00100	3.0	25	3	4.870	0.072		
0.00041	60.0	23	3	5.630	0.066	tomato	(37)
0.00041	60.0	23	3	0.820	0.481		

DioW	0.00000	1.0	21	9	1.300	0.071	blueberry	(33)
	0.00000	5.0	21	9	1.300	0.106		
	0.00000	0.3	25	4	0.000	0.000	lettuce	(29)
	0.00000	0.5	25	4	0.000	0.000		
	0.00000	0.3	25	4	0.000	0.000	pepper	
	0.00000	0.5	25	4	0.000	0.000		
	0.00000	3.0	20	3	0.270	0.199	mungbean	(17)
	0.00000	5.0	20	3	0.250	0.152		
	0.00000	10.0	20	3	0.350	0.129		
	0.00000	15.0	20	3	0.360	0.135		
	0.00000	3.0	20	3	0.340	0.415	mungbeansprouts	
	0.00000	5.0	20	3	0.320	0.243		
	0.00000	10.0	20	3	0.280	0.305		
	0.00000	15.0	20	3	0.260	0.234		
DisW	0.00000	5.0	15	3	0.600	0.129	buckwheat	(18)
	0.00000	2.0	55	9	0.070	NR	apple	(38)
	0.00000	5.0	21	9	1.150	0.224	blueberry	(33)
	0.00000	5.0	21	9	1.200	0.097		
	0.00000	5.0	21	9	1.100	0.094		
	0.00000	0.3	25	6	0.700	NR	spinach	(10)
	0.00000	1.5	25	6	0.370	0.020	mungbeansprouts	(22)
	0.00000	3.0	25	6	0.500	0.041		
	0.00000	5.0	20	6	0.430	0.086	lettuce	(7)
	0.00000	5.0	22	6	0.700	NR	apple	(24)
	0.00000	5.0	22	6	0.400	NR		
	0.00000	4.0	22	6	0.250	0.130	cucumber	(31)
	0.00000	4.0	22	6	0.220	0.119		
	0.00000	4.0	22	6	0.260	0.120		
HP	0.00500	5.0	21	9	2.300	0.214	blueberry	(33)
	0.01000	5.0	21	9	2.200	0.207		
	0.02000	1.0	21	9	2.200	0.104		
	0.02000	5.0	21	9	2.700	0.160		
	0.02000	5.0	21	9	2.800	0.155		
	0.02500	5.0	25	6	2.520	0.052	cantaloupe	(39)
	0.05000	5.0	25	6	2.290	0.069		
	0.02500	5.0	25	6	3.130	0.057	honeydew	
	0.05000	5.0	25	6	3.130	0.057		
LA	0.00500	5.0	21	9	1.900	0.083	blueberry	(33)
	0.05000	5.0	21	9	2.400	0.126		
	0.02000	0.5	55	6	2.300	NR	spinach	(10)
	0.00300	5.0	20	6	0.700	0.082	lettuce	(7)
	0.00300	10.0	20	6	0.720	0.053		
	0.00300	20.0	20	6	1.460	0.122		
	0.00300	30.0	20	6	2.080	0.094		
	0.00500	5.0	20	6	0.910	0.135		
	0.00500	10.0	20	6	1.200	0.339		
	0.00500	20.0	20	6	1.540	0.057		

	0.00500	30.0	20	6	2.210	0.176		
	0.00700	5.0	20	6	1.080	0.045		
	0.00700	10.0	20	6	1.500	0.318		
	0.00700	20.0	20	6	1.620	0.082		
	0.00700	30.0	20	6	2.490	0.220		
	0.01000	5.0	20	6	1.390	0.151		
	0.01000	10.0	20	6	1.760	0.441		
	0.01000	20.0	20	6	2.060	0.343		
	0.01000	30.0	20	6	2.670	0.171		
	0.02000	5.0	20	6	1.730	0.065		
	0.02000	10.0	20	6	2.020	0.318		
	0.02000	20.0	20	6	2.270	0.098		
	0.02000	30.0	20	6	3.420	0.355		
	0.02000	5.0	22	6	2.300	NR	apple	(24)
	0.02000	5.0	22	6	2.650	NR		
MA	0.00300	5.0	20	6	0.550	0.078	lettuce	(7)
	0.00300	10.0	20	6	1.110	0.049		
	0.00300	20.0	20	6	1.280	0.061		
	0.00300	30.0	20	6	1.620	0.106		
	0.00500	5.0	20	6	1.100	0.127		
	0.00500	10.0	20	6	1.160	0.114		
	0.00500	20.0	20	6	1.860	0.155		
	0.00500	30.0	20	6	2.390	0.237		
	0.00700	5.0	20	6	1.490	0.171		
	0.00700	10.0	20	6	1.580	0.057		
	0.00700	20.0	20	6	1.950	0.143		
	0.00700	30.0	20	6	2.800	0.298		
	0.01000	5.0	20	6	1.730	0.176		
	0.01000	10.0	20	6	1.690	0.041		
	0.01000	20.0	20	6	2.530	0.351		
	0.01000	30.0	20	6	3.420	0.159		
	0.02000	5.0	20	6	1.750	0.135		
	0.02000	10.0	20	6	2.030	0.106		
	0.02000	20.0	20	6	2.790	0.053		
	0.02000	30.0	20	6	4.500	0.253		
OW	0.00010	15.0	12	6	0.900	NR	spinach	(10)
	0.00010	30.0	12	6	1.000	NR		
PAA	0.00800	0.1	25	15	2.800	0.232	tomato	(35)
	0.00800	0.3	25	15	4.700	0.129		
	0.00800	0.5	25	15	5.500	0.026		
	0.00800	1.0	25	15	5.500	0.026		
	0.00400	5.0	25	30	0.150	0.100	greenonion	(40)
	0.00400	10.0	25	30	0.540	0.079		
	0.00800	5.0	25	30	0.540	0.162		
	0.00800	10.0	25	30	0.630	0.161		
	0.00400	5.0	25	30	0.990	0.248	lettuce	
	0.00400	10.0	25	30	0.890	0.263		
	0.00800	5.0	25	30	0.450	0.246		

	0.00800	10.0	25	30	0.950	0.268		
	0.00800	0.5	25	6	0.800	NR	spinach	(10)
	0.00250	1.5	25	6	1.000	0.029	mungbeansprouts	(22)
	0.00250	3.0	25	6	1.200	0.012		
	0.00510	1.5	25	6	1.700	0.004		
	0.00510	3.0	25	6	1.750	0.012		
	0.00700	1.5	25	6	1.760	0.012		
	0.00700	3.0	25	6	2.000	0.016		
	0.00700	3.0	25	3	2.100	0.058		
	0.00400	2.0	22	3	2.350	0.180	carrot	(3)
	0.00400	2.0	22	3	2.100	0.078		
	0.00400	2.0	22	3	1.300	0.130		
	0.00400	2.0	22	3	0.800	0.130		
	0.00870	1.0	35	3	2.120	0.222	tomato	(37)
	0.00870	1.0	35	3	1.170	0.094		
	0.00870	2.0	35	3	2.720	0.266		
	0.00870	2.0	35	3	1.180	0.279		
SAEW	0.00214	5.0	20	16	2.870	0.010	chinese celery	(26)
	0.00214	5.0	20	16	2.910	0.013	daikon	
	0.00214	5.0	20	16	2.910	0.013	lettuce	
	0.00200	3.0	20	3	1.550	0.238	mungbean	(17)
	0.00200	5.0	20	3	1.740	0.248		
	0.00200	10.0	20	3	1.760	0.147		
	0.00200	15.0	20	3	1.800	0.274		
	0.00400	3.0	20	3	2.230	0.259		
	0.00400	5.0	20	3	2.580	0.215		
	0.00400	10.0	20	3	2.610	0.274		
	0.00400	15.0	20	3	2.850	0.244		
	0.00600	3.0	20	3	3.150	0.463		
	0.00600	5.0	20	3	3.160	0.320		
	0.00600	10.0	20	3	3.220	0.350		
	0.00600	15.0	20	3	3.360	0.266		
	0.00800	3.0	20	3	3.700	0.230		
	0.00800	5.0	20	3	3.960	0.287		
	0.00800	10.0	20	3	3.980	0.336		
	0.00800	15.0	20	3	4.190	0.172		
	0.00200	3.0	20	3	1.270	0.463	mungbeansprouts	
	0.00200	5.0	20	3	1.310	0.380		
	0.00200	10.0	20	3	1.460	0.490		
	0.00200	15.0	20	3	1.520	0.325		
	0.00400	3.0	20	3	2.010	0.498		
	0.00400	5.0	20	3	2.130	0.288		
	0.00400	10.0	20	3	2.170	0.308		
	0.00400	15.0	20	3	2.230	0.466		
	0.00800	3.0	20	3	3.120	0.325		
	0.00800	5.0	20	3	3.280	0.220		
	0.00800	10.0	20	3	3.220	0.385		
	0.00800	15.0	20	3	3.230	0.391		

	0.01200	3.0	20	3	4.030	0.396		
	0.01200	5.0	20	3	4.230	0.386		
	0.01200	10.0	20	3	4.090	0.450		
	0.01200	15.0	20	3	4.110	0.363		
SDS	0.00500	5.0	21	9	1.850	0.151	blueberry	(33)
	0.00500	5.0	21	9	2.000	0.149		
	0.00500	5.0	21	9	2.100	0.149		
	0.05000	5.0	21	9	2.050	0.192		
	0.05000	5.0	21	9	2.200	0.192		
	0.05000	5.0	21	9	2.200	0.186		
	0.50000	1.0	21	9	2.300	0.073		
	0.50000	5.0	21	9	2.150	0.183		
	0.50000	5.0	21	9	2.250	0.186		
	0.50000	5.0	21	9	2.300	0.180		
	0.50000	5.0	21	9	2.500	0.194		
SH	0.00250	0.1	25	15	1.000	0.052	tomato	(35)
	0.00250	0.3	25	15	2.000	0.026		
	0.00250	0.5	25	15	2.500	0.181		
	0.00250	1.0	25	15	4.200	0.284		
	0.00500	0.1	25	15	1.400	0.207		
	0.00500	0.3	25	15	2.800	0.284		
	0.00500	0.5	25	15	4.200	0.207		
	0.00500	1.0	25	15	5.000	0.310		
	0.01000	0.1	25	15	1.700	0.129		
	0.01000	0.1	25	15	1.900	0.155		
	0.01000	0.3	25	15	4.000	0.465		
	0.01000	0.3	25	15	3.500	0.284		
	0.01000	0.5	25	15	5.600	0.103		
	0.01000	0.5	25	15	4.100	0.310		
	0.01000	1.0	25	15	5.500	0.258		
	0.01000	1.0	25	15	5.500	0.052		
	0.01000	5.0	25	30	0.140	0.079	greenonion	(40)
	0.01000	10.0	25	30	0.060	0.086		
	0.02000	5.0	25	30	0.070	0.159		
	0.02000	10.0	25	30	0.170	0.179		
	0.01000	5.0	25	30	0.430	0.197	lettuce	
	0.01000	10.0	25	30	0.880	0.226		
	0.02000	5.0	25	30	0.920	0.183		
	0.02000	10.0	25	30	0.990	0.252		
	0.01000	5.0	20	16	2.820	0.013	chinesecelery	(26)
	0.01000	5.0	20	16	2.860	0.008	daikon	
	0.01000	5.0	20	16	2.950	0.010	lettuce	
	0.01000	5.0	20	6	2.000	0.069	carrot	(27)
	0.01000	10.0	20	6	3.250	0.122		
	0.01000	5.0	20	6	2.040	0.159	cherrytomato	
	0.01000	10.0	20	6	2.780	0.045		
	0.01000	5.0	20	6	2.070	0.131	cucumber	
	0.01000	10.0	20	6	3.190	0.049		

	0.00040	5.0	21	9	3.250	0.248	blueberry	(33)
	0.00125	5.0	21	9	2.450	0.254		
	0.00250	5.0	21	9	3.150	0.380		
	0.00500	5.0	21	9	3.650	0.269		
	0.01000	5.0	21	9	3.750	0.291		
	0.02000	1.0	21	9	4.000	0.305		
	0.02000	5.0	21	9	4.600	0.073		
	0.01060	1.5	25	6	1.200	0.024	mungbeansprouts	(22)
	0.01060	3.0	25	6	1.500	0.020		
	0.01300	1.5	25	6	1.100	0.147		
	0.01300	3.0	25	6	1.200	0.033		
	0.01700	1.5	25	6	1.350	0.139		
	0.01700	3.0	25	6	1.500	0.049		
	0.01700	3.0	25	3	1.500	0.058		
	0.02000	2.0	22	3	3.360	0.385	carrot	(3)
	0.02000	2.0	22	3	1.400	0.054		
	0.02000	2.0	22	3	1.700	0.156		
	0.02000	2.0	22	3	0.400	0.130		
	0.02000	0.3	25	4	5.230	0.960	lettuce	(29)
	0.02000	0.5	25	4	5.570	0.775		
	0.02000	0.3	25	4	5.710	0.310	pepper	
	0.02000	0.5	25	4	6.670	0.000		
	0.02000	1.0	35	3	1.650	0.200	tomato	(37)
	0.02000	1.0	35	3	1.180	0.103		
	0.02000	2.0	35	3	2.530	0.200		
	0.02000	2.0	35	3	1.270	0.086		
TSP	0.02000	0.3	25	4	5.460	0.830	lettuce	(29)
	0.02000	0.5	25	4	5.650	0.740		
	0.05000	0.3	25	4	6.900	0.000		
	0.05000	0.5	25	4	6.920	0.000		
	0.02000	0.3	25	4	5.780	0.475	pepper	
	0.02000	0.5	25	4	5.440	0.675		
	0.05000	0.3	25	4	6.610	0.000		
	0.05000	0.5	25	4	6.670	0.000		
Water	0.00000	0.1	25	15	1.400	0.103	tomato	(25)
	0.00000	0.1	25	15	1.900	0.181		
	0.00000	0.3	25	15	2.300	0.103		
	0.00000	0.3	25	15	3.200	0.207		
	0.00000	0.5	25	15	2.500	0.052		
	0.00000	0.5	25	15	3.400	0.284		
	0.00000	1.0	25	15	3.000	0.103		
	0.00000	1.0	25	15	3.800	0.181		
	0.00000	5.0	20	16	0.410	0.015	chinesecelery	(26)
	0.00000	5.0	20	16	0.380	0.015	daikon	
	0.00000	5.0	20	16	0.470	0.020	lettuce	
	0.00000	2.0	22	3	0.440	0.162	carrot	(3)
	0.00000	2.0	22	3	0.200	0.112		
	0.00000	2.0	22	3	-0.100	0.192		

0.00000	2.0	22	3	0.000	0.130		
0.00000	5.0	25	6	0.130	0.082	cantaloupe	(39)
0.00000	5.0	25	6	0.460	0.087	honeydew	

NR: Not reported in the respective primary study

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