

Effect of UV-C on Inoculated Packaging Material & Food Contact Surfaces



Trial Conducted by The Institute of Food & Health and Centre for Food Safety, University College Dublin.



Trial Funded by the European Commission



UV Technology Global

Trial conducted using
UV Technology Global equipment

Notes

C. Jejuni - Reduction (log₁₀ cfu / cm²) of C. Jejuni inoculated onto packaging & surface materials. UV-C exposure for 8 - 16 seconds @ 6.5 cm from the light source. Average starting population = 3.5 log₁₀ cfu / cm²

E. Coli - Reduction (log₁₀ cfu / cm²) of E. Coli inoculated onto packaging & surface materials. UV-C exposure for 8 - 16 seconds @ 6.5 cm from the light source. Average starting population = 4.5 log₁₀ cfu / cm²

S. Enteritidis - Reduction (log₁₀ cfu / cm²) of S. Enteritidis inoculated onto packaging & surface materials. UV-C exposure for 8 - 16 seconds @ 6.5 cm from the light source. Average starting population = 4 log₁₀ cfu / cm²

Log reduction cfu/cm²

Packaging Medium	Bacterium	8s Exposure
Black Polypropolene	C. Jejuni	3.16
	E. Coli	3.75
	S. Enteritidis	3.93
Blue Polypropolene	C. Jejuni	3.44
	E. Coli	2.21
	S. Enteritidis	2.26
Aluminium	C. Jejuni	3.40
	E. Coli	4.12
	S. Enteritidis	4.18
Polyolefin	C. Jejuni	3.78
	E. Coli	4.28
	S. Enteritidis	4.07
Polyvinyl Chloride	C. Jejuni	3.77
	E. Coli	4.50
	S. Enteritidis	4.16
White Polypropolene	C. Jejuni	3.97
	E. Coli	3.94
	S. Enteritidis	3.69
Polyethylene - Polypropelene	C. Jejuni	3.92
	E. Coli	2.58
	S. Enteritidis	3.08
Stainless Steel	C. Jejuni	2.92
	E. Coli	3.98
	S. Enteritidis	4.20
Polyethylene Cutting Board	C. Jejuni	3.36
	E. Coli	3.39
	S. Enteritidis	3.55