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Title	The effect of a commercially available bacteriophage and bacteriocin on Listeria monocytogenes in coleslaw
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Publication date	2019-10-23
Original Citation	Lewis, R., Bolocan, A. S., Draper, L. A., Ross, R. P. and Hill, C. (2019) 'The Effect of a Commercially Available Bacteriophage and Bacteriocin on Listeria monocytogenes in Coleslaw', Viruses, 11(11), 977. (12pp.) doi: 10.3390/v11110977
Type of publication	Article (peer-reviewed)
Link to publisher's version	10.3390/v11110977
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Download date	2026-10-30 06:11:48
Item downloaded from	https://hdl.handle.net/10468/9309

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Combining a commercially available bacteriophage and bacteriocin successfully reduces Listeria monocytogenes in coleslaw.

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Supplementary tables and figures

Supplementary Table S1. Effect of P100 on ScottA in coleslaw food trial stored at 4°C over a 10 day period. P100 titre was also measured throughout the experiment.

Day	CFU/g	
	ScottA no P100	ScottA with phage P100
0	7.10E+05	7.10E+05
0.16	7.10E+05	2.00E+04
1	5.70E+05	1.70E+03
2	4.60E+05	1.20E+03
3	3.50E+05	8.30E+02
4	3.10E+05	3.70E+02
5	2.50E+05	4.00E+02
6	2.30E+05	1.50E+02
8	1.20E+05	2.90E+02
10	7.60E+04	0.00E+00

Day	PFU/g
	P100
0.16	3.80E+07
1	4.00E+07
2	3.00E+07
3	3.60E+07
4	3.40E+07
5	3.10E+07
6	2.10E+07
8	2.70E+07
10	1.60E+07

Supplementary Table S2. Efficiency of plaquing of 15 colonies picked from Day 8 and 15 colonies picked from Day 10 of P100 at an MOI of 50 treated coleslaw food trial to check for resistance to P100. Efficiency of plaquing is represented as a fraction with SEM of 3 separate experiments.

Colonies picked from P100 at an MOI of 50 food trial	**Efficiency of plaquing**
Untreated Scott A	1±0
Day 8_1	0.81±0.1
Day 8_2	0.67±0.1
Day 8_3	0.89±0.11
Day 8_4	0.71±0.04
Day 8_5	0.95±0.15
Day 8_6	0.84±0.17
Day 8_7	0.84±0.17
Day 8_8	0.89±0.11
Day 8_9	0.75±0.05
Day 8_10	0.89±0.11
Day 8_11	0.92±0.21
Day 8_12	0.83±0.26
Day 8_13	1±0.19
Day 8_14	1.03±0.17
Day 8_15	0.95±0.15
Day 10_1	0.95±0.15
Day 10_2	1±0.19
Day 10_3	0.95±0.15
Day 10_4	0.92±0.21
Day 10_5	1±0.19
Day 10_6	1±0.19
Day 10_7	1.25±0.14
Day 10_8	1.14±0.25
Day 10_9	1.14±0.25
Day 10_10	1.03±0.18
Day 10_11	1.08±0.21
Day 10_12	1.08±0.21
Day 10_13	1.14±0.25
Day 10_14	1.33±0.17
Day 10_15	1.28±0.31
Day 10_16	1.17±0.25
Day 10_17	1.22±0.28
Day 10_18	1.28±0.31
Day 10_19	1.17±0.25
Day 10_20	1.14±0.25

Supplementary Table S3. Efficiency of plaquing of colonies isolated from phage seeded plates in the rate of resistance to P100 assay. Efficiency of plaquing is represented as a fraction. If no P100 plaques formed on a colony isolated from the rate of resistance to P100 assay efficiency of plaquing is represented by (-).

Colonies isolated from efficiency of lysogeny plate	**Efficiency of plaquing**
Untreated ScottA	1
1	0.26
2	1.38
3	-
4	0.0003
5	0.000388
6	-
7	0.000313
8	-
9	-
10	-
11	4.88
12	-
13	-
14	-
15	0.000463
16	-
17	-
18	5.38
19	-
20	0.0005

Supplementary Table S4. Effect of P100 and Nisaplin® in combination against ScottA in coleslaw food trial stored at 4°C over a 10 day period. P100 titre was also measured throughout the experiment.

Day	**CFU/g**			
	No P100 No Nisaplin®	**P100 only**	**Nisaplin® only**	**P100 and Nisaplin®**
0	9.40E+05	9.40E+05	9.40E+05	9.40E+05
0.16	9.40E+05	2.50E+05	2.00E+05	1.00E+05
1	5.10E+05	2.70E+04	7.40E+04	8.20E+03
2	4.60E+05	1.20E+04	5.70E+04	4.40E+03
3	3.50E+05	5.90E+03	5.50E+04	3.10E+03
4	2.80E+05	3.70E+03	4.70E+04	1.60E+03
5	2.40E+05	2.20E+03	3.20E+04	8.00E+02
6	2.00E+05	1.50E+03	1.80E+04	4.80E+02
8	1.20E+05	3.60E+02	2.80E+04	2.60E+02
10	7.40E+04	2.10E+02	1.40E+04	1.20E+02

Day	**PFU/g**	
	P100 only	**P100 and Nisaplin®**
0.16	2.70E+06	2.50E+06
1	3.10E+06	3.70E+06
2	3.20E+06	3.70E+06
3	4.00E+06	4.70E+06
4	3.70E+06	3.70E+06
5	3.10E+06	3.50E+06
6	2.60E+06	3.10E+06
8	2.70E+06	2.50E+06
10	3.10E+06	2.60E+06

Supplementary Table S5. Efficiency of plaquing and Nisaplin® sensitivity of colonies picked from Day 10 of combination food trail of Nisaplin alone, P100 alone and P100 and Nisaplin® in combination. Efficiency of plaquing is represented as a percentage with SEM of 3 separate experiments.

Colonies picked from Day 10 of combination food trial	**Efficiency of plaquing**	**Nisaplin® zone of inhibition diameter (mm)**
Untreated ScottA	1±0	10.06
P100 alone_1	0.90±0.05	10.04
P100 alone_2	0.89±0.06	10.15
P100 alone_3	1±0	9.9
P100 alone_4	0.93±0.07	10.56
P100 alone_5	0.98±0.1	9.47
P100 alone_6	0.98±0.1	10.08
P100 alone_7	0.93±0.07	9.75
P100 alone_8	1±0	9.38
P100 alone_9	1±0	10.15
P100 alone_10	1±0	9.86
Nisaplin® alone_1	1±0	10.45
Nisaplin® alone_2	1±0	10.49
Nisaplin® alone_3	0.95±0.05	10.45
Nisaplin® alone_4	1±0	10.4
Nisaplin® alone_5	0.78±0.06	10.52
Nisaplin® alone_6	0.93±0.07	9.71
Nisaplin® alone_7	0.94±0.06	10.37
Nisaplin® alone_8	1±0	10.39
Nisaplin® alone_9	0.93±0.07	9.77
Nisaplin® alone_10	1.05±0.05	10.07
P100 and Nisaplin®_1	0.95±0.05	9.55
P100 and Nisaplin®_2	0.83±0.02	10.09
P100 and Nisaplin®_3	0.95±0.05	10.09
P100 and Nisaplin®_4	0.85±0.08	10.27
P100 and Nisaplin®_5	0.90±0.05	9.57
P100 and Nisaplin®_6	0.95±0.05	9.67
P100 and Nisaplin®_7	0.95±0.05	9.7
P100 and Nisaplin®_8	0.90±0.05	9.19
P100 and Nisaplin®_9	0.89±0.06	9.79
P100 and Nisaplin®_10	0.95±0.05	9.26

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