

RESEARCH NOTE



Efficacy of PhageGuard Listex on cooked, unpeeled shrimp

Objective

Study the efficacy of phages applied on cooked, unpeeled shrimp that have been contaminated with *Listeria monocytogenes*.

Protocol

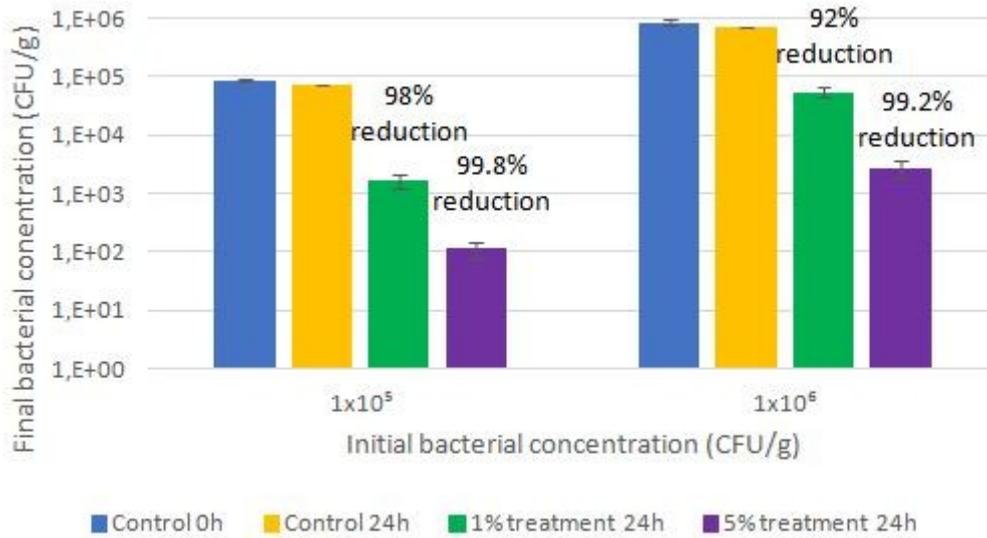
Shrimp samples of 25 grams each were treated with a dip application using two PhageGuard Listex concentrations: 1% and 5%. After this, they were artificially contaminated at two different bacterial concentrations: 1×10^5 and 1×10^6 CFU/g. Samples were stored for 24 hours at 4°C, time after which the bacteria were retrieved and plated on ALOA selective agar plates.

Results

Samples analyzed on day 0 (controls, **blue bars**), showed expected contamination levels, which were similar after 24 hours (controls, **yellow bars**). When a 1% treatment was applied, it was possible to observe a bacterial reduction of 1.1 - 1.6 logs after 24 hours (**green bars**). When a 5% treatment was applied, the observed bacterial reduction was of about 2.4 - 2.8 log after 24 hours (**purple bars**).

- Bacterial reductions when using 1% treatment: 1.1 - 1.6 log.
- Bacterial reductions when using a 5% treatment: 2.4 – 2.8 log.

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Conclusions

These results demonstrate that phage effectively controls *Listeria* on cooked, unpeeled shrimp contaminated with *L. monocytogenes* and stored at low temperatures. The effect of PhageGuard Listex on *Listeria* is dose dependent, with bigger reductions (2.4 - 2.8 logs) when higher treatment concentrations are used (5%). At a treatment concentration of 1%, bacterial reductions were of 1.1 - 1.6 logs.