

# Publication abstract

## Control of *Listeria monocytogenes* in pasteurized milk by using phage application

**Based upon:**

*“Control of Listeria monocytogenes in milk by using phage cocktail”*

ŞANLIBABA, Pinar and BUZRUL, Sencer

Department of Food Engineering, Faculty of Engineering, Ankara University, Turkey

Department of Food Engineering, Faculty of Engineering and Architecture, Konya Food and Agriculture University, Turkey

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*Listeria monocytogenes* is a resilient pathogen that poses a significant challenge to the food industry, particularly in dairy products such as pasteurized milk. Due to its ability to survive harsh food processing conditions, *Listeria* is considered a food safety concern. A study conducted by Ankara University and Konya Food and Agriculture University, Turkey, analyzed the effectiveness of bacteriophage (phage) product [Phageguard L \(PGL\)](#) (formerly known as Listex) in controlling *Listeria monocytogenes* in pasteurized milk.

## Trial setup

The study used commercially pasteurized milk, ensuring the milk was well within its shelf life. The milk samples were contaminated with bacterial suspensions of *L. Monocytogenes* strains and then treated with the phage product. The experiment was designed to mimic industrial storage practices, using two different temperatures including storage temperature. The samples were incubated for up to five days, and bacterial counts were measured at set intervals. This approach allowed for a realistic evaluation of phage efficacy under conditions similar to those encountered in milk processing and storage facilities. Temperature is a parameter directly bearing on effectiveness.

## Conclusion

On day 4, the application of Phageguard L in milk led to *Listeria monocytogenes* reductions ranging from 1.0 log to up to 1.6 log at storage temperature. At higher temperature, reductions up to 2.9 log of *L. Monocytogenes* were observed. These results substantiates the efficacy of Phageguard L for *Listeria* control in pasteurized milk products.

1.6<sub>log</sub>  
Reduction

### *Listeria* reduction in pasteurized milk

Phageguard L treatment in pasteurized milk resulted in a maximum reduction of *Listeria monocytogenes* of 1.6 log on day 4 at storage temperature.

