

# **Influence of temperature variations on growth, injury survival and inactivation of *Listeria monocytogenes* in goat milk samples at laboratory scale**

## **Abstract**

Transmission of the thermo-tolerant pathogen *Listeria monocytogenes* via contaminated milk and its products, can lead to serious food-borne illness. In this study, the effects of selected temperatures on survival, percentage injury and inactivation of *L. monocytogenes* in goat milk samples collected from two different farms were evaluated. Low temperature ranges (0, 5, 10 °C) had a bacteriostatic effect; while at temperatures of 25 and 45 °C, this pathogen grew luxuriantly. However, growth was comparatively slow at 15 °C throughout a 12-h stress period. Furthermore, a high temperature range (50, 55, 60 and 65 °C) resulted in the elimination of this pathogen within 4 h of stress. Results of Scanning Electron Microscopy showed morphological changes in the cells upon induction of stress temperatures.