Title Modelling the growth of *Listeria monocytogenes* in fresh green coconut (*Cocos nucifera* L.) water

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Abstract

The behaviour of *Listeria monocytogenes* in the fresh coconut water stored at 4 °C, 10 °C and 35 °C was studied. The coconut water was aseptically extracted from green coconuts (*Cocos nucifera* L.) and samples were inoculated in triplicate with a mixture of 5 strains of *L. monocytogenes* with a mean population of approximately 3 $\log_{10}$ CFU/mL. The kinetic parameters of the bacteria were estimated from the Baranyi model, and compared with predictions of the Pathogen Modelling Program so as to predict its behaviour in the beverage. The results demonstrated that fresh green coconut water was a beverage propitious for the survival and growth of *L. monocytogenes* and that refrigeration at 10 °C or 4 °C retarded, but did not inhibit, growth of this bacterium. Temperature abuse at 35 °C considerably reduced the lagtimes. The study shows that *L. monocytogenes* growth in fresh green coconut water is controlled for several days by storage at low temperature, mainly at 4 °C. Thus, for risk population this product should only be drunk directly from the coconut or despite the sensorial alterations should be consumed pasteurized.