

Title Influence of *Lactobacillus plantarum* on *Staphylococcus aureus* growth in a fresh vegetable model system

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Abstract

The influence of a *Lactobacillus plantarum* (B₄) on the growth of *Staphylococcus aureus* (Sa₄) was verified by impedometric methods in a suitable model reproducing the characteristics of fresh vegetables. The inoculum size of the single strains and their growth temperature were varied according to a Central Composite Design. The results obtained via statistical analysis showed that the temperature affected the growth of both *S. aureus* and *L. plantarum* strains. The pathogenic strain, independently of its inoculum size, was inhibited by *L. plantarum* at all the tested temperatures. A proper combination of specific lactic acid bacteria and storage temperature should improve the safety of the vegetable products.