

Evaluation of high pressure processing as an additional hurdle to control *Listeria monocytogenes* and *Salmonella enterica* in low-acid fermented sausages

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Journal of Food Science

Volume 70, Issue 7, 2005, Pages m339 - m344

Abstract

Low-acid fermented sausages (fuet and chorizo) were manufactured to evaluate the combined effect of high pressure processing (HPP) and ripening on foodborne pathogens. Raw sausages inoculated with a three-strain cocktail of *Salmonella* ser. Derby, London, and Schwarzengrund, and a three-strain cocktail of *L. monocytogenes* ser. 1/2 c and 4b were pressurized at 300 MPa for 10 min at 17 °C. Afterwards, sausages were ripened at 12 °C and 80% RH for 27 d. *Salmonella* counts decreased in all studied sausages during ripening. However, the application of HPP as an additional hurdle to the ripening process produced a greater decrease in the *Salmonella* population, showing lower counts (3 MPN/g) in ripened sausages. By contrast, lower values of *L. monocytogenes* counts were obtained in non-treated (NT) than in pressurized sausages due to the delay of pH drop caused by HPP inactivation of endogenous lactic acid bacteria. After pressurization of raw sausages at 300 MPa, a discoloration of sausages was observed, coinciding with an increase in *L** values.

Keywords : low-acid fermented sausages ; ripening ; high pressure processing ; *Salmonella* ; *L. monocytogenes*