



REFERENCE

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## Pressure-induced thermotolerance of *Salmonella enteritidis*

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Only pasteurized egg products can be used to produce foods to be consumed without any cooking treatment. Time-temperature conditions to pasteurize liquid whole egg (LWE) range from 62°C/2.5 min to 66-68°C/3 min<sup>1</sup>. However, functional characteristics of pasteurized egg products, such as foaming and emulsifying properties, can be easily impaired by the heat treatment, resulting in products with lower sensorial quality. *Salmonella enteritidis* is a reference microorganism to design pasteurization conditions for eggs<sup>2</sup>. In the last decade, the use of high pressure to preserve foods has gained increased interest, with several commercial pasteurized products already available<sup>3</sup>. In this work it was verified that pressure treatments induced thermotolerance of the non-pathogenic *Salmonella enteritidis* (ATCC 13076, Oxoid), used as a model microorganism in a model food system, with decimal reduction times decreasing to about half to one-third, compared to the non-pressurized microorganisms. The pressure level and pressurization times used were well below the critical values that cause changes on LWE quality<sup>1</sup>. These results open a promising possibility for sequentially combine pressure, followed by temperature treatments, to pasteurize egg products, using lower temperatures and/or reduced pasteurization times, with less detrimental effects on egg products quality. Similar experiments are under way using LWE.

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