
Penetration of *Salmonella enteritidis* in Chicken Breasts Stored Under Refrigeration Temperatures

Claudia Regina Wessling (I), Cibeli Viana (I), Vanessa Mendonça Soares (II), Camila Lampugnani (I), Ana Paula Perin (I), Krishna Raquel Marques (I), Luciano dos Santos Bersot (I)

(I) UFPR - Universidade Federal do Paraná, Setor Palotina (Rua Pioneiro, 2153, Jardim Dallas, Palotina, PR CEP 85950-000), (II) UNESP - Universidade Estadual Paulista, Campus de Botucatu (Distrito de Rubião Júnior, caixa postal 572, CEP 18618970, Botucatu, SP)

Resumo

It is widely studied the importance of *Salmonella* sp. in contamination of chicken meat and its relationship with the occurrence of outbreaks. The chicken can contaminate throughout the slaughter and processing occurring initially on the surface. Studies indicate that *Salmonella* has ability to penetrate the muscle tissue facilitated by autolytic processes or presence of proteolytics microorganisms in muscle tissue, mostly in storage at inadequate temperatures. The penetration of *Salmonella* at deeper layers of tissue can be difficult to eliminate by usual food preparation processes and increase the risk of transmission of this foodborne pathogen. Thus, the objective of the present research was to assess the ability of *Salmonella Enteritidis* in penetrating poultry breasts at refrigeration temperatures and the influence of the *Pseudomonas fluorescens* in this process. Chicken cubes were developed with 30 x 30 x 30 mm (height, width, length) from chicken breasts in natura. Inocula were prepared from 3 Log CFU of *S. Enteritidis* and *Pseudomonas fluorescens* ATCC 13525, which were placed in contact with only one side of the chicken cubes. Two treatments were performed, being the treatment I (cube inoculated with *S. Enteritidis*) and treatment II (cube of chickens inoculated with *S. Enteritidis* and *P. fluorescens*). The treatments I and II were exposed to 2, 7 and 12° C for 24, 48 and 72 hours. After each time the cuts were subdivided into three

Referência:

Claudia Regina Wessling, Cibeli Viana, Vanessa Mendonça Soares, Camila Lampugnani, Ana Paula Perin, Krishna Raquel Marques, Luciano dos Santos Bersot. Penetration of *Salmonella Enteritidis* in Chicken Breasts Stored Under Refrigeration Temperatures. In: **Anais do 12º Congresso Latinoamericano de Microbiologia e Higiene de Alimentos - MICROAL 2014** [= **Blucher Food Science Proceedings**, num.1, vol.1]. São Paulo: Editora Blucher, 2014.

DOI 10.5151/foodsci-microal-117

segments of 10 mm height: base (near the site of inoculation), medium and final that were submitted to quantification of microorganisms inoculated by ISO methodology. The analysis were carried out in duplicate for each time and temperature, and the experiment was performed in six repetitions. It was found that there was no statistical difference ($P < 0.05$) between treatments I and II, having been possible to quantify *S. Enteritidis* in all segments to 12°C, which was not possible to observe the 2 and 7 °C, where it was not quantified the pathogen at the top in both treatments. These results demonstrated that the penetration of *S. Enteritidis* in chicken breasts had influence of temperature of storage, the highest being more likely to facilitate the penetration and the presence of *P. fluorescens* not affected on the penetration of the pathogen in the experimental conditions.

Palavras-Chave: food, contamination, cooking

Agência de Fomento: Fundação Araucária