Title: Biofilm production by *Salmonella* spp. isolated from a poultry slaughterhouse.

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Biofilms can be considered a virulence factor, once they protect the microorganisms involved in their matrix, increasing resistance to the action of antimicrobials and sanitizers, and allow their propagation in the environment. This association constitutes a form of protection to its development, fomenting symbiotic relations and allowing the survival in hostile environments. Biofilms can be produced on various surfaces such as food, food processing equipment, water and industrial piping, ventilation, medical devices and living tissue. Considering the importance of Salmonella in the productive chain of poultry, its pathogenic potential for infection in humans and the capacity of cross-transmission between foods, our aim was to evaluate the production of biofilms by 40 strains of Salmonella spp. isolated from two different types of mats (canvas and polystyrene), present in a poultry slaughterhouse, during 20 consecutive weeks. In each collection, 6 samples from each type of mat were analyzed by swabs moistened with peptone water, and preincubated in this medium for 35°C/24h, followed by enrichment in the Tetrathionate and Rappaport Vassiliadis broths (35°C and 42°C, respectively) and plated on to XLD, and SS agar, after 24 h. After identification, using invA gene, the strains were incubated in BHI broth, at 35°C/24h and the culture was diluted to 1.5 x 10⁸ CFU, using the same broth added with 0.5% glucose. An aliquot of 300µL was seeded in guadruplicate in a 96-well microplate. After incubation, the plate was washed with PBS and stained with 1% crystal violet. The plate was washed with distilled water to remove the dye and the biofilm was resuspended in 33% glacial acetic acid and its optical density read in an ELISA reader. Samples were classified as non-biofilm producer or weak, moderate or strong producer. The results showed that 31 (77.5%) were considered biofilm producers among the 40 analyzed strains, of which 15 (37.5%) were classified as poor biofilm producers, 12 (30%) moderate and 4 (10%) strong producers. This ability to produce biofilm by Salmonella may favor the persistence and propagation of these pathogens on the contact surfaces of the processing plant, causing cross contamination with good quality carcasses and compromising the entire production line.

Keywords: Biofilm, Salmonella spp., Slaughterhouse

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