

**TITLE:** BEEF, PORK AND CHICKEN MEAT SOLD IN BUTCHERS IN THE CITY OF LONDRINA - PR HAVE *Proteus mirabilis* WITH THE ABILITY TO FORM BIOFILM AT DIFFERENT INTENSITIES

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**ABSTRACT:** *Proteus mirabilis* is one of the Gram-negative enterobacteria responsible for the contamination of meat at all stages of its processing. In addition to its pathogenicity, it also forms biofilm, a structure that contributes to its survival in both abiotic and biotic environments. Based on this, this study aimed to measure the intensity of biofilm formation in *P. mirabilis* isolated from meat sold in butcher shops in the city of Londrina - PR. A spectrophotometer with a wavelength of 570 nm was used to quantify the biofilms, which were qualitatively classified into very strong, strong, moderate, weak and absent, according to their absorbances and that of the negative control. From 360 samples of beef, 360 of pork and 200 of chicken, it was possible to isolate *P. mirabilis* in 100 (27.08%) of beef, 83 (23.05%) of pork and in 200 (100%) of chicken meat. Most of the beef isolates, 79 (79%), formed weak biofilm while 15 (15%) moderate biofilm and 6 (6%) strong biofilm. Most of the pork isolates, 59 (71.08) formed weak biofilm, 9 (10.84%) formed strong biofilm, 8 (9.64%) formed very strong biofilm and 7 (8.43%) formed moderate biofilm. In chicken isolates, 127 (63%) formed very strong biofilm, 68 (34%) strong biofilm and 5 (2.5%) moderate biofilm. By forming biofilm, bacteria become more resistant to environmental stress allowing their survival on abiotic surfaces. This persistence may explain the high rate of *P. mirabilis* isolated from chicken meat, which mostly had very strong biofilm, and the low isolation rate in beef and pork, which mostly had weak and very weak biofilm, respectively. It is concluded that the majority of *P. mirabilis* isolated from beef, pork and chicken meat formed, respectively, weak, very weak and very strong biofilm, which represents a zoonotic risk and the need for greater effort in the disinfection of butchery equipment in order to avoid contamination and dissemination of potentially pathogenic bacteria.

**Keywords:** Bacterial biofilm; meat product; *Proteus mirabilis*;

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