TITLE: CONTAMINATION BY *Listeria monocytogenes* IN THE ENVIRONMENT OF SWINE SLAUGHTERING AND PROCESSING

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ABSTRACT:
Listeria monocytogenes is a pathogen commonly isolated in food industries mostly due to its ability to withstand stress conditions and to produce biofilm. These characteristics support its permanence for long periods in the environment of slaughtering and processing, representing constant sources of contamination to the handled products. The purpose of this research was to evaluate the major points of contamination by *L. monocytogenes* in the environment of swine slaughtering and processing. Ten collections were carried out in a swine slaughterhouse located in the state of Paraná (BR) between September/2016 and February/2017. In each collection, samples were obtained from surface (400cm^2) and utensils (pool of four units) of the environment of slaughtering and cutting room using sterile swabs, in both moments: before the beginning of activities and during the activities. All the samples were submitted to *Listeria* detection and confirmation according protocols ISO 11290 adapted. Among the total of sampled points, *L. monocytogenes* was isolated in 3.85% (15/390) of the samples. Of which, the conveyor belt that carried the meat cuts to final packaging in the cutting room was the most relevant point, representing 73.33% (11/15) of the positive samples. In the conveyor belt was possible to recover the pathogen in both moments, before the activities in five of the ten collections and during the activities in six of the ten collections. This persistence of isolation on the same surface may be the result of the capability of biofilm production by *Listeria.* In addition, it was possible to isolate *L. monocytogenes* in the drain of the slaughtering room and in the cutting board and knife used in the processing environment. The presence of this pathogen in an industrial environment, even at low percentage, represents a risk of contamination to the meat products, based on the fact that the agent can be transferred to the food at any stage of the process. Nevertheless, based on the results obtained, it should be highlighted the higher rate of pathogen isolation at the final stages of handling of the swine meat, representing an important epidemiological role in the transmission of this pathogen to consumers. These evidences demonstrate the necessity for permanent control of *L. monocytogenes* in the industry, especially in the processing environment, in order to minimize the contamination of final products with a pathogen which is important when it comes to public health.

Keywords: conveyor belt; cutting room; swine meat; swine slaughterhouse

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