

TITLE: ORGANIC ACIDS AND CHLORINE DIOXIDE IN CONTROL OF *SALMONELLA* SPP., TOTAL COUNTS OF MESOPHILES AND COLIFORMS AT 35°C AND 45°C IN NATURAL PIG WRAPPINGS

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ABSTRACT:

Wrappings, both natural and artificial, are used to protect flesh sausages from external influences and also to give them form and stability. For the production of natural casings the intestines of slaughtered animals are carefully extracted without puncturing them to avoid contamination and for the intestines to have the required minimum length. Therefore, the objective of this work was to verify the efficacy of sanitization of natural pig casings with organic acids and chlorine dioxide, as a way of reducing and / or eliminating contamination of the wrappings, as well as providing more information about possible sanitization treatments of casings Natural resources and contribute to the elaboration of specific legislation on the subject in Brazil. The analyzes carried out were: *Salmonella* spp., Total Mesophile Counts and Coliforms at 35°C and 45°C, using as methodologies the standards of ABNT NBR ISO 4833-1 (2014), ABNT NBR ISO 6579 (2015) and IN No. 62 (2003), respectively. It was possible to observe that for the Total Mesophile Counts, treatments with different concentrations of chlorine dioxide presented reduction of the bacteria population of five log cycles in comparison to the Control. When compared to the other treatments, significant decreases ($p < 0.01$) higher than four log cycles were observed. In both treatments, with different concentrations of lactic acid and with different concentrations of organic acid mixtures, a significant reduction ($p < 0.01$) of the Total Mesophile Counts was observed. The results for analysis of Coliforms at 35°C and 45°C in natural pig casings show that for the treatments with different concentrations of chlorine dioxide presented decrease of approximately three logarithmic cycles in comparison to the Control. For the other treatments, the decrease ($p < 0.01$) was of one logarithmic cycle maximum. For *Salmonella* spp., considering the methodology used, it was detected the presence of the pathogen only in the control samples, indicating that the treatments with chlorine dioxide and organic acids were efficient in the control of *Salmonella*. The results show that the use of higher concentrations of organic acids, whether pure or not, is recommended. All the treatments presented efficiency in reducing the initial contamination of the casings, but the results of the treatment with chlorine dioxide were superior to those obtained with organic acids.

Keywords: Organic acids, Wraps, Sanitization, Quality microbiological