

TITLE: OCCURRENCE OF PATHOGENIC MICROORGANISMS POTENTIALLY BIOFILM FORMERS AND STRANGE MATERIALS IN MINAS FRESCAL CHEESE COMMERCIALIZED IN THE SOUTH-WEST REGION OF SÃO PAULO STATE

AUTHORS: RORATO, A. C.; RODRIGUES, N. A.; PIMENTEL-FILHO, N. J.

INSTITUTION: UNIVERSIDADE FEDERAL DE SÃO CARLOS CAMPUS LAGOA DO SINO (RODOVIA LAURI SIMÕES DE BARROS, KM 12, SP-189, 18290-000, BURI – SP, BRAZIL)

ABSTRACT:

The South-west region of São Paulo State is characterized by the low human development index and economy focused on family agriculture, being the Minas Frescal cheese production an important source of income for the small producers of the municipalities. Usually, the manufacture of these cheeses does not observe hygienic practices and quality control, posing risks to consumers' health. Thus, the objective of this work was to evaluate the occurrence of pathogenic bacteria potentially biofilm formers and strange materials in the Minas Frescal cheese produced in the cities of Angatuba e Campina do Monte Alegre, SP. Eight cheese samples from different producers were collected in commercial establishments of the municipalities and analyzed for the presence of total and thermotolerant coliforms, *Staphylococcus aureus*, *Listeria monocytogenes* and *Salmonella*. From contaminated samples, pathogenic colonies were isolated, confirmed by biochemical and molecular tests and later tested for the ability to form biofilms on stainless steel surfaces. Strange materials in the food were quantified by acid hydrolysis technique. Cheeses analyzed showed high counts of thermotolerant coliforms (5.1 log CFU/g) and *S. aureus* (6.3 log CFU/g). While *L. monocytogenes* was not detected in any sample analyzed, four samples (50 %) presented *Salmonella*. All isolated pathogens were potentially biofilm formers on stainless steel. High amount of strange materials was found in the cheese samples. The occurrence of microbiological contamination by pathogenic bacteria and the high number of strange materials in the chesses indicate the low quality of the product and potential health risk to consumers. In this way, it is evident the needs to provide aid to producers so that they can improve the quality of their products, through the knowledge and application of Good Manufacturing Practices.

Keywords: Artisanal products, foodborne pathogens, Good Manufacturing Practices, fresh cheese.

Development Agency: Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).