

TITLE: *LISTERIA MONOCYTOGENES* ENUMERATION IN RICOTTA CHEESE MARKETED IN BOTUCATU, SÃO PAULO, BRAZIL

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ABSTRACT:

Ricotta cheese is a dairy product obtained from the whey and its production process includes several technological steps that can lead to contamination by microorganisms present in the industrial environment if hygienic measures are neglected. Among these microorganisms, *Listeria monocytogenes* is an important pathogen within the dairy industry since it can form biofilms on the surface of equipment, persist in the environment, and contaminate the final products. In addition, this pathogen has special relevance for public health because it causes an important and serious food-borne disease, the listeriosis. The Brazilian legislation for ready-to-eat foods (Normative Instruction 60 ANVISA) allows a count of up to 2.0 log CFU/g of *L. monocytogenes*. Thus, this study aimed to enumerate *L. monocytogenes* in Ricotta cheese sold in the city of Botucatu, São Paulo, Brazil, to verify compliance with the legal standards. Twenty-seven samples of eight Ricotta brands were collected from nine supermarkets in Botucatu. All samples were submitted to the enumeration of *L. monocytogenes* at the end of the shelf-life by the ISO 11290-2:2017 method. Of the 27 samples, three (11.11%) were above the Brazilian legislation limit (3.95; 2.69 and 2.70 log CFU/g) and one (3.7%) had a count of 0.70 log CFU/g. The three non-compliant samples belonged to two different brands, and the samples with similar counts (2.69 and 2.70 log CFU/g) were from the same brand and produced with time intervals of seven days between the batches. The presence of *L. monocytogenes* in industrial environments is relatively frequent, especially in industries that do not correctly adopt good manufacturing and hygienic practices. The elimination of this pathogen from the environment and consequently from the final product can be achieved by adopting an efficient industrial hygiene protocol. Thus, the isolation of *L. monocytogenes* from four Ricotta samples indicates the occurrence of failures that enabled the pathogen to persist in the environment and contaminate the final product. It is important to point out that when *L. monocytogenes* is present in a product such as Ricotta, no process will be used to eliminate it before consumption, since it is a ready-to-eat food. Thus, detecting pathogens in this type of product is a serious risk to public health and requires constant surveillance by food inspection services.

Keywords: Food safety; Microbiological criteria; Ready-to-eat Food.

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