BIO035

Contamination indicators survey in pressed ricotta commercialized in the South of Minas Gerais

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Introduction: Ricotta is a soft cheese, not matured, prepared with serum or a mixture of serum and pasteurized cow milk (integral or skimmed). Characteristic of Minas Gerais' culture, this type of cheese is also very consumed during diet periods, due to its low fat content. Intrinsic characteristics such as high water activity and high availability of nutrients make the ricotta extremely susceptible to the proliferation of microorganisms, mainly from the intense manipulation required by the production process. At the same time, serious disease outbreaks have been associated with the ingestion of dairy products contaminated with *Listeria monocytogenes* and *Salmonella* sp, besides other outbreaks associated with *Staphylococcus aureus* and *Escherichia coli*, which indicates the importance of monitoring the presence of these microorganisms in ricotta. **Objective:** The present work aimed to evaluate the microbiological quality of pressed ricotta commercialized in the South of Minas Gerais, according to the contamination indicators survey proposed by the RDC 12/2001 (ANVISA): Coliforms at 45ºC, positive coagulase *Staphylococcus*, *Salmonella* sp and *L. monocytogenes.* **Methods:** A total of 30 samples of 10 pressed ricotta different brands, commercialized in the cities of Alfenas, Poços de Caldas and Varginha (all located in the South of Minas Gerais) was analyzed. The following methods were used: the multiple tubes of fermentation technique for determination of Coliforms at 35°C and 45°C, followed by inoculation in Teague agar for isolation of *E. coli*; inoculation in Baird-Parker agar for determination and isolation of positive coagulase *Staphylococcus*; selective broth enrichment and differential selective plating for isolation of *Salmonella* sp; primary selective enrichment, differential selective plating, secondary enrichment and cold enrichment for isolation of *L. monocytogenes*. Starting from the respective isolated colonies, appropriate biochemical tests were performed for each indicator mentioned in order to identify them. **Results:** None of the samples were contaminated with *L. monocytogenes*. Nine samples exceeded the limit for coliforms at 45ºC, but *E. coli* was not detected in any of them. It was verified the presence of *Salmonella* in one sample, which coliforms at 45ºC quantification was within permitted by ANVISA. Therefore it is suggested that coliforms have a possible influence in the development of *Salmonella*, as already noted by other authors. The coagulase positive *Staphylococcus* were detected in seven samples, exceeding the maximum recommended in six. Still, 16 samples had significant counts of negative coagulase *Staphylococcus*, which currently has also demonstrated its potential to produce enterotoxins. **Conclusion:** Considering that 15 samples exceeded the limit tolerated by the current legislation at least in one of the recommended indicators and those included five different brands, it was concluded that 50 per cent of the ricotta samples and brands analyzed presented a poor sanitary quality, meaning that they are unsuitable to be consumed and warning about the importance of adopting good manufacturing practices for food production, in order to prevent the occurrence of outbreaks specially related to dairy products.

Keywords: ricotta, contamination indicators, Coliforms, *Staphylococcus*, *Salmonella*, *Listeria*.

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