

Title: Detection of *Salmonella* spp. in artisanal coalho cheeses market in the State of Paraíba, Brazil

Authors: PASQUATTI, T.N.¹; BIER, D.¹; ARAÚJO, F.R.²; ANDRADE, D.P.¹; PEREIRA, J.F.S.¹; BRUNETTA, A.A.P.¹; TAVARES, V.C.L.¹; LEITE, I, S.¹.

Institution: ¹Universidade Católica Dom Bosco (Avenida Tamandaré, 6000 – Jardim Seminário, Campo Grande – MS, 79117-900), ²Embrapa Gado de Corte (Avenida Rádio Maia 830 Zona Rural – 79106-550 Campo Grande, Mato Grosso do Sul).

Abstract:

Artisanal cheeses produced from raw milk may be a microbiological threat to public health. Coalho cheese is an important dairy product in Northeast Brazil. It is usually produced on small properties, under inadequate hygiene conditions. The objective of the present study was to investigate the presence of *Salmonella* spp. in coalho cheese produced artisanally and marketed in the State of Paraíba, Brazil. For that, 77 samples of artisanal coalho cheese were collected in street markets at in the municipalities of Campina Grande, João Pessoa, Conde, Juazeirinho and Soledade. The samples were processed by the technique described by the International Organization for Standardization (ISO 6579: 2002), which comprises a horizontal method for the detection of *Salmonella* spp. with modifications, adding the decarboxylation of lysine. The colonies with *Salmonella*-compatible biochemical profile were analyzed by real-time PCR (qPCR), with primers and DNA probes for TaqMan MGB system, designed with the Primer Express program targeting the *invA* gene. Out of the 77 samples, 21 (27.3%) were biochemically compatible with *Salmonella*. In the qPCR, however, 11/77 (14.3%) were positive. The presence of this pathogen in coalho cheese market in Paraíba indicates poor hygienic-sanitary quality and risk to the consumer, being essential the clarification and the qualification of the manufacturers of this product regarding the good practices of manufacture, besides effective sanitary inspection. According to Brazilian legislation, cheeses with *Salmonella* are inadequate for human consumption.

Keywords: coalho cheese, microbiological identification, qPCR, *Salmonella*.

Development agency: Embrapa, project 02.13.10.007.00.00.