

DIVERSITY OF LACTIC ACID BACTERIA IN MARAJÓ CHEESE PRODUCED IN THE AMAZON REGION, BRAZIL

Ferreira, A.A., Seixas, V.N.C., Eller, M. R., Nero, L.A., Carvalho, A.F.

UFV - Universidade Federal de Viçosa (Av. P.H. Rolfs, s/n, Centro, Viçosa, Minas Gerais 36570-000)

“Queijo Marajó” is an artisanal cheese produced from buffalo milk typical of Marajó Island, Pará, Brazil. This cheese has great regional acceptance and can be produced by two different processes resulting in the cream butter type. These cheeses are produced using raw milk and fermentation is carried out exclusively by endogenous microbiota. So, the aim of this study was to isolate and identify species of lactic acid bacteria naturally present in the milk and in the processing environment of the two types of Marajó cheese. Fourteen samples of cow and buffalo raw milk and environmental swabs (milk brass, wooden utensils, baking pan and press) were collected, diluted and plated, in triplicate, on different media: MRS agar at 30 °C, M17 at 30 °C and 42 °C for 48 hours for the isolation of *Lactobacillus*, *Lactococcus* and *Streptococcus*, respectively. Ten colonies of each sample were randomly selected and purified on MRS agar. Genomic DNA of the gram-positive catalase-negative cocci and bacilli was extracted using Wizard® Genomic DNA Purification Kit (Promega). A fragment of the 16S rDNA gene of each isolate was amplified and sequenced (Macrogen, Korea). The sequences were aligned to those of bacterial species from the GenBank database (<http://www.ncbi.nlm.nih.gov/genbank/>) for identification of the bacterial species. From 142 strains isolated in this work, 78 were from milk and 64 from environment, comprising seven different species of lactic acid bacteria. The species *Weissella confuse* was identified in all samples, predominating among the isolates (47.2%), followed by the species *Streptococcus infantarius* subsp. *infantarius* (22.5%), *Lactococcus lactis* subsp. *lactis* (10.6%), *Weissella paramesenteroides* (1.4%), *Leuconostoc paramesenteroides* (1.4%), *Pediococcus pentosaceus* (1.4%), *Lactobacillus brevis* (0.7%) and Enterococcus genus (14.8%). The diversity of lactic acid bacteria identified in this study may contribute to a better understanding about the contribution of these microorganisms for the definition of sensorial and physicochemical characteristics of the Marajó Cheese.

Key words: Marajó cheese, natural microbiota, buffalo milk

Agradecimentos: Aos produtores de queijos do Marajó tipo creme e manteiga pelas amostras concedidas. À SAGRI, UEPA (campus de Salvaterra) e ADEPARÁ pelo apoio logístico.

Apoio fomento: Capes