



## E 24 VIABILITY OF *Lactobacillus acidophilus* IN RIPENED COALHO CHEESE PRODUCED WITH GOAT MILK

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Cheeses have been considered as good vehicles for probiotic bacteria because of their physical and chemical characteristics and composition. This study aimed to evaluate the viability of *Lactobacillus acidophilus* (LA5) and the pH of Coalho cheese made with goat milk during 60 days of ripening for the development of a potentially probiotic product. The Coalho cheese is a semi-cooked or cooked curd, typically produced from the Northeast Brazil, and its processing technology was adapted to the use of goat milk by researchers of Embrapa Goats and Sheep, resulting in a product with a distinguished taste. Two batches of cheese were produced, both with the addition of a mesophilic type O culture (*Lactococcus lactis* subsp. *lactis* and *Lactococcus lactis* subsp. *cremoris*), one supplemented with *L. acidophilus* and the other don't (T1 and T2, respectively), in three repeated cheese-making trials. The cooking temperature of the curd was kept at 42°C and the amount of salt added to the curd was reduced from 1.2% to 0.8% to promote the survival of the probiotic bacteria. The cheeses were vacuum packed and ripened at 10°C. Samples of the cheese were analyzed for protein, fat and moisture. The pH, water activity and viability of *L. acidophilus* was monitored at the first day of production, and with 15, 30, 45 and 60 days of ripened. The composition of the potentially probiotic cheese and the control was in accordance with the standards set by Brazilian legislation for this type of traditional cheese, being not statistically different between them ( $p > 0.05$ ). The average moisture was 47.9% (0.495) for T1 and 51.7% (0.799) for T2. The average fat content was 24.6% (0.011) for T1 and 24.8% (0.011) for T2. The average protein content was 20.0% (0.049) for T1 and 20.9% (0.176) for T2. During the ripening period the pH of the cheese T1 varied between 4.9 and 5.1, and the water activity between 0.9989 e 0.9798. The microbiological results showed that the population of the probiotic bacteria remained almost stable and above 7.0 log CFU/g in the cheese T1 throughout the follow-up period of ripening. This population rose up between 1 and 15 days, then was reduced gradually until the 60<sup>th</sup> day. The Brazilian legislation fix up a probiotic product must contains at least 8.0 log CFU/portion of daily consumption. Considering that a portion of cheese usually consumed is about 30g, the product attends the law definition, containing above 8.0 log CFU per portion. The results indicated that, under the studied conditions, it is possible to produce a potentially probiotic ripened goat cheese by adding *L. acidophilus*.

**Index terms:** probiotic cheese, *L. acidophilus*, goat cheese