

**TITLE:** ISOLATION AND IDENTIFICATION LACTIC ACID BACTERIA WITH TECHNOLOGICAL POTENTIAL CHARACTERISTICS FROM RAW MILK OF BUFFALOES

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Buffalo milk is valued by dairy manufacturers because of the centesimal composition, which guarantees higher industrial yield, as well as increased demand from the consumer market, due to the nutritional value of these products, and the lactic acid bacteria from this product is important to industries to assign technological characteristics to food and bioprotection, which drive the search for new strains for use as starters or adjunct cultures. The objective of this work was isolated lactic acid bacteria from raw milk of buffaloes with technological potential and none pathogenic factors. Samples of raw buffalo milk from 10 properties of the Midwest of Minas Gerais were collected. The samples were culturing in selective media and typical colonies were performing the Gram staining and Catalase tests. A total of 148 lactic acid bacteria were isolated by screening assays and these groups were subsequently subjected to Rep-PCR, being 47 isolates sequenced by 16S rRNA, cataloged and investigated for technological potential (acidifying activity, autolytic activity and growth capacity in different concentrations of NaCl.) and pathogenic actions (DNase, gelatinase, hemolytic activity). A 12 lactic bacteria with technological potential and absence of virulence factors, phenotypically evaluated, presenting characteristics that promote this application in the processing of dairy products. The species were: *Lactobacillus plantarum*, *L. casei*, *L. paracasei*, *Lactococcus garvieae*, *L. lactis*, *Leuconostoc lactis* and *Enterococcus hirae*. Regarding the technological potential, 75% of the isolates were diacetyl producers and 100% presented proteolytic activity and absence of lipolytic activity. *Leuconostoc* was the only producer of gas, and *Lactobacillus* presented the best EPS production. *Lactococcus lactis* presented a lowest pH obtained (4.03). All of isolates decrease optical of autolysis tests after 24 hours. *Lactobacillus* showed the same growth pattern in the different concentrations of NaCl (4%, 6% and 10%), being able to multiply even in a higher concentration of salt. These isolates showing satisfactory results however, more tests (Bacteriocins producers and antibiotics resistance) need be done to conclude the potential of these bacteria.

**Keywords:** acid-lactic bacteria; buffalo milk; technological potential; pathogenic factors.

**Development Agency:** The authors are thankful to CAPES (Finance Code 001), FAPEMIG and CNPq.