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Identification of lactic acid bacteria from fermented camel cheese produced in Saudi Arabia

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The current study aimed to identify probiotic strains of lactic acid bacteria isolated from fermented camel cheese produced in Saudi Arabia Region-Arar by placing pieces of unpasteurized soft white camel cheese with pieces of green pepper in soured and salty camel milk in tightly closed glass jars and keeping at room temperature. The microbiological and biochemical characteristics of the isolates from fermented camel cheese were studied after 12 weeks, where the averages of log₁₀ (CFU/g) of the Aerobic Plate Count (APC) and Lactic Acid Bacteria count (LAB) for the five batches of cheese were 8.25, 6.88, 7.22, 6.49 and 6.94 and 6.94, 5.67, 5.90, 5.82 and 6.77, respectively. 35 isolates were tentatively characterized as LAB. These bacteria were Gram positive rods or cocci, catalase and oxidase negative, non-motile and non-spore-forming bacteria. The isolates were distributed into nine groups according to the common characteristics they had and subjected to further biochemical tests using API50 CH system. The results were compared and it was concluded that *Lactobacillus acidophilus*, *Lactobacillus delbrueckii* subsp. *bulgaricus*, *Lactobacillus rhamnosus*, *Streptococcus thermophilus* and *Lactococcus lactis* subsp. *cremoris*, species that were identified as probiotics were associated with this fermentation process. The results showed that panelists had preferred the sensory properties of fermented camel cheese. So, it was concluded that this newly processed cheese was a rich source of LAB especially probiotic that may be involved in many food industries and may have positive effect on health.

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