

# Growth behavior of *Lactobacillus acidophilus* and biochemical characteristics and acceptability of acidophilus milk made from camel milk

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## 1. Introduction

The camel is one of the most important domesticated animals in the arid and semi-arid zone of tropical and sub-tropical countries. Camel milk provides an important source of nutrients in desert communities.

The world population of camels is about 19 millions, 0.6 million of them in Saudi Arabia (1). Camel milk is used in Saudi Arabia as one of the most essential item of the Bedouin's diet, and it is usually consumed fresh as such. It is also consumed, though on small scale, as pasteurized milk in some cities in the Kingdom. A surplus of camel milk occurs during the rainy seasons. Since most desert communities have limited food sources, it is vital that this surplus is efficiently utilized. However, most Bedouin families pool the surplus camel milk with goat milk and convert it to a dry fermented product called "ugt" (2). Moreover, attempts were made to convert camel milk into a fermented product (3) and also into cheese (4,5). Some researchers reported that it is difficult to use camel milk alone for making cheese (6), although its general composition seems to be very similar to that of cow milk (7-9). However, RAO *et al.*

(8), MEHAIA (10) and YAGIL (11) reported that cheese can be successfully produced from camel milk, but only after mixing with the milk of other species.

No attempts have been made to study the growth behavior of starter culture in camel milk. But FARAH *et al.* (3) studied the preparation and consumer acceptability tests of fermented milk in Kenya.

The objectives of this study were to study the growth behavior of *Lactobacillus acidophilus* in camel milk and to compare the biochemical characteristics and acceptability of acidophilus milk made from camel and cow milk.

## 2. Materials and methods

### 2.1 Source and maintenance of *Lactobacillus acidophilus*

*L. acidophilus* used in this study was obtained from the culture collection of the Department of Food Science at King Saud University. Cultural characteristics used to identify *L. acidophilus* included: Gram-stain reaction, ability to grow at