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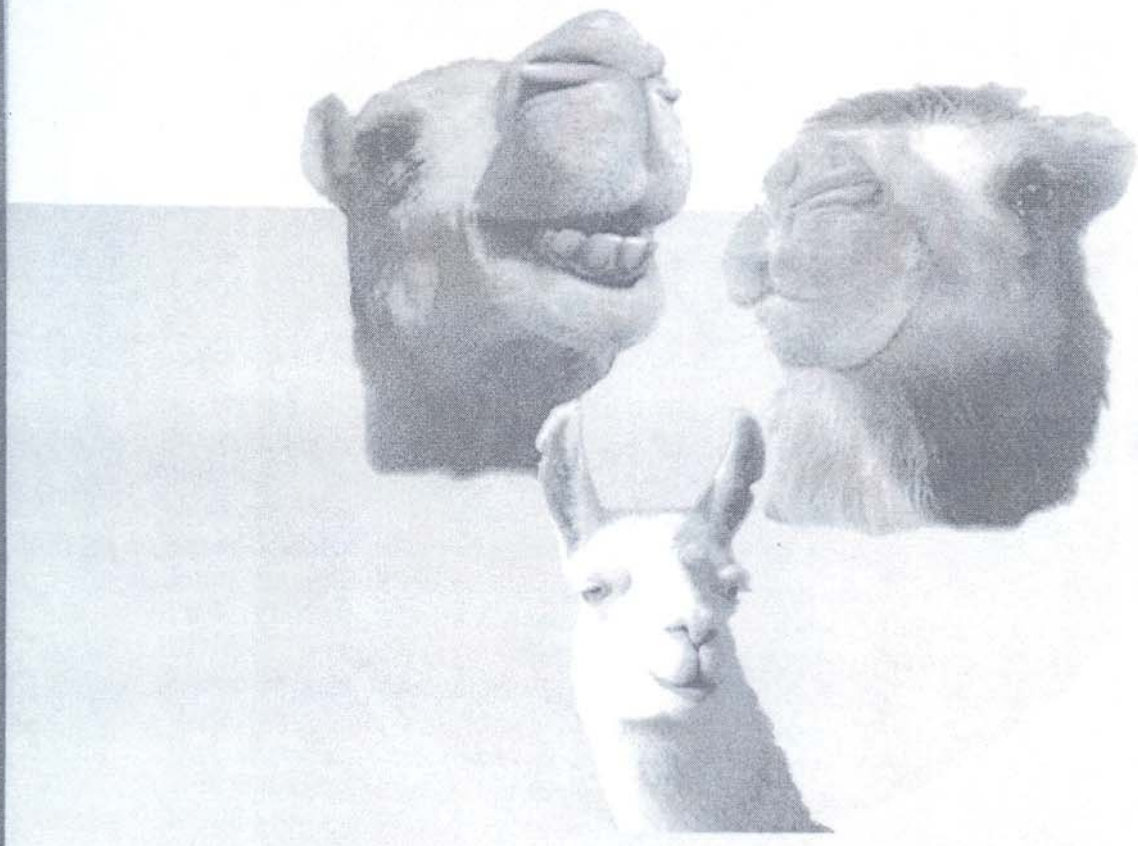

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Comparative fatty acid gross composition of milk in Bactrian camel, and dromedary

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Abstract

Samples of camel milk both from Bactrian and dromedary were collected in 4 regions from Kazakhstan at different seasons. The fatty acid composition of those milk samples from different species of camel was compared by taking in account the proportion of the major part of the saturated, mono-unsaturated and poly-unsaturated fatty acids and compared with literature data. The results showed a higher part of saturated fatty acids in cow (78.6%) and goat (75.3%) compared to camel (68.6 for Bactrian and 69.7% for dromedary) and mare (50.6 % only) milk fat. The mono-unsaturated fatty acids are in highest proportion in camel (29.3 % for Bactrian and 27.6% for dromedary) compared to mare (25.8%), goat and cow (20.7 and 20.8% respectively) milk fat. At reverse, camel milk fat is the lower in poly-unsaturated fatty acids in our sample (2.0 and 2.5% respectively for camel and dromedary) compared to goat and cow (3.4 and 3.8 % respectively). Mare milk is particularly rich in linoleic and linolenic acid (11.3 and 11.9% respectively). In camel, the mono-unsaturated fatty acids are in lower proportion in autumn and higher quantity in summer. No differences were observed according the regions.

1. Introduction

The genus *Camelus* includes the one-humped camel (*C. dromedarius*) and the Bactrian two-humped camel (*C. bactrianus*). In Kazakhstan, these two species cohabit in the same areas and even in the same farms (Konuspayeva & Faye, 2004). This particularity allows comparing the milk composition of those animals reared in similar environment. Elsewhere, crude camel milk and fermented product (named *shubat*) were always an important food of Kazakh peoples. Especially shubat is renowned and used for some medicinal purpose (Djanbakilov *et al.*, 2000; Konuspayeva *et al.*, 2004). The fatty acid composition of milk is one of the aspects linked to the discussion on the health effect of milk and milk products (Wahle & Heys, 2002). However, the fatty acid composition of camel milk and comparison with other species have not documented extensively (Chilliard, 1989; Farah, 1996), especially in Bactrian camel (Zhang *et al.*, 2005). No recent data are available in Kazakhstan. The present study aimed to obtain results on fatty acid composition in dromedary and Bactrian camel living in the same areas of Kazakhstan, to compare the results with some references concerning