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The Thesis Submitted for the Degree of DVM

**Comparison of some trace elements in camel's milk and colostrum
in Sistan region**

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Abstract:

Today, natural food products without drugs and various toxins and with healing properties have attracted the attention of consumers around the world. In the meantime, camel's milk is not only a food but also a healing product that can be used to help treat certain diseases. Therefore, the aim of this study was to compare some rare elements in camel's milk and colostrum in Sistan region. For this purpose, sampling was performed on 40 camels from different areas of Sistan region. The colostrum sample was taken 1 to 4 days after calving and the milk sample was taken at least 3 months after calving. 100 ml of sample was collected from each camel. All camels sampled were clinically healthy and had a third birth. The samples were stored in an 80 C freezer after collection. Iron, zinc, copper, and manganese levels were measured by the Shimadzu nuclear flame absorption device. Data analysis was calculated with Sigma Stat 3.5 statistical software at a significance level of $p < 0.05$. The results obtained from camel's milk showed the following values: Iron mg/L $2/55 \pm 0/56$, Zinc mg/L $7/8 \pm 2/63$, copper mg/L $0/55 \pm 0/21$ and manganese mg/L $0/09 \pm 0/01$. The amount of elements in camel colostrum based on Mean SD was 3.87 ± 0.74 mg / L iron, 27.19 ± 4.04 mg / L zinc, 0.96 ± 0.26 mg / L copper, and $0/12 \pm 0/01$ mg / L manganese. Statistical analysis also showed a significant difference ($p < 0.01$) in the amount of all the mentioned elements between milk and colostrum. In contrast to other studies, the amount of trace elements in the milk and colostrum of camels in a mountainous region of Sistan is somewhat lower than in other places. Due to the long drought in Sistan and the environmental conditions of the region and the poverty of pastures in this region in terms of fodder, this lower element is justifiable.

Keywords: Milk, colostrum, camel, Sistan