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MINERAL COMPOSITION OF FRESH COW'S MILK AND THE IMPORTANCE OF MINERALS IN THE HUMAN DIET

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Abstract

Minerals in particular macro-minerals play a very important role in human health, a very large part of them comes from milk and milk products in our diet, so their importance is quite large. This research aimed to evaluate which feed influences fresh cow milk mineral (Ca, K, P, Na, and Mg) composition.

The two model farms monitored for 6 months January - June 2023 were included in this research. Milk samples for analysis were taken in a sterile container at a temperature of 5 ^{0}C directly from the lactofreezer, while all minerals from the feed and concentrates were analyzed with microwave plasma atomic emission spectroscopy (MP-AES).

From the experimental results, we can see that farm 2, which uses mixed feed and concentrate for dairy cows, has significantly higher values of minerals in fresh milk compared to the results obtained by farm 1. In farm 2, fresh cow's milk contains Ca on average 1268.20 mg/L, K - 1409.33 mg/L, P - 1537.53 mg/L, and Mg - 83.36 mg/L, while in farm 1 fresh cow's milk on average has Ca was 1038.31 mg/L, K - 1406.16 mg/L, P - 1232.86 mg/L, and Mg - 65.67 mg/L.

From the experimental analyses in this research, it is observed that the use of mixed feed by dairy cows consisting of many components such as silage of grass, corn, alfalfa, dry grass, high-protein concentrate, various supplements with mineral composition, etc. are positive indicators of increasing mineral values in fresh cow's milk.

***Key words**: Analysis, Mineral elements, Physicochemical parameters, Cow's milk.*