

BETAINE CONTENT IN RAW COW AND SHEEP MILK

Jelena V. Živković¹, Nataša Trutić¹, Slavica Sunarić¹, Slavoljub Živanović²,
Tatjana Jovanović³, Gordana Kocić⁴, Radmila Pavlović⁵

¹University of Niš, Faculty of Medicine, Department of Chemistry, Niš, Serbia

²University of Niš, Faculty of Medicine, Research Centre for Biomedicine Niš, Serbia

³University of Niš, Faculty of Medicine, Department of Physics, Niš, Serbia

⁴University of Niš, Faculty of Medicine, Department of Biochemistry, Niš, Serbia

⁵University of Milan, Department of Veterinary Science and Public Health, Milan, Italy

Contact: Jelena V. Živković

81 Dr Zoran Djindjić Blvd., 18000 Niš, Serbia

E-mail: jelena.zivkovic.hemija @medfak.ni.ac.rs

Betaine (trimethylglycine) exists at a physiological pH value in a zwitterionic form. It acts as a methyl group donor, an osmolyte, and a lipotropic agent. Although this micronutrient is a valuable ingredient of a healthy diet, there is limited data on its content in various foods.

The aim of this study was to determine the betaine content in raw, unprocessed cow and sheep milk from household farms in southeastern Serbia. The content of fat and protein in raw cow milk was ($4.20 \pm 0.38\%$) and ($3.25 \pm 0.12\%$), respectively. Furthermore, the content of fat and protein in raw sheep milk was ($6.67 \pm 0.33\%$) and ($5.58 \pm 0.16\%$), respectively. The content of betaine in raw cow and sheep milk was (7.51 ± 0.66 mg/l) and (15.68 ± 3.52 mg/l), respectively.

Given the importance of betaine as a significant micronutrient, its twice as high content as in cow milk contributes to the high nutritional value of sheep milk.

Acta Medica Medianae 2022;61(3):35-42.

Key words: betaine, cow milk, sheep milk, HPLC method