

VOLATILE COMPOUND PROFILES OF THREE MOLDOVAN CHEESES DIFFERING IN MILK ORIGIN AND PROCESSING CONDITIONS: A PRELIMINARY HS-SPME-GC-MS STUDY

Anatoli Cartasev

*National Institute for Applied Research in Agriculture and Veterinary Medicine,
100, Ialoveni str. MD-2070 Chisinau, Republic of Moldova
Comrat State University, 17, Galatana str., MD-3801 Comrat, Republic of Moldova
e-mail: anaticartasev@gmail.com, +37369782909

Abstract. The volatile profiles of three Moldovan cheeses differing in milk origin and processing conditions were characterized by HS-SPME-GC-MS. The samples included a commercial cheese from pasteurized goat milk, a homemade cheese from unpasteurized sheep milk, and a homemade cheese from mixed unpasteurized cow and sheep milk. The goat-milk cheese showed a 2-butanone-dominated profile, whereas the sheep-milk cheese contained a high proportion of butanoic acid and a dominant acid-related peak at RT 24.66 min, tentatively assigned to hexanoic acid. The mixed-milk cheese was distinguished by 3-methyl-1-butanol, 3-methylbutanoic acid and 2-phenylethanol. These differences were consistent with varying contributions of lipolysis and amino acid catabolism and may reflect the combined influence of milk type, heat treatment, microbiota and manufacturing conditions. To the best of our knowledge, this study provides the first published HS-SPME-GC-MS characterization of volatile profiles in cheeses produced in the Republic of Moldova.

Keywords: HS-SPME-GC-MS, volatile compounds, goat cheese, sheep cheese, Moldovan cheese.