https://doi.org/10.17221/84/2024-CJAS

The stability of fatty acids in yoghurts produced from bulk milk samples intentionally selected according to dairy production systems

Oto Hanuš[1], Eva Samková[2], Jindřich Čítek[3], Hana Nejeschlebová[1,2], Eva Dadáková[4], Lucie Hasoňová[2], Michael Rost[3], Irena Němečková[1], Karolína Reindl[2], Markéta Borková[1], Ondřej Elich[1]*

[1]*Dairy Research Institute Ltd., Prague, Czech Republic*
[2]*Department of Food Biotechnologies and Agricultural Products Quality, Faculty of Agriculture and Technology, University of South Bohemia in České Budějovice, České Budějovice, Czech Republic*
[3]*Department of Genetics and Agricultural Biotechnology, Faculty of Agriculture and Technology, University of South Bohemia in České Budějovice, České Budějovice, Czech Republic*
[4]*Department of Applied Chemistry, Faculty of Agriculture and Technology, University of South Bohemia in České Budějovice, České Budějovice, Czech Republic*

**Corresponding author: hana.nejeschlebova@seznam.cz*

The authors are fully responsible for both the content and the formal aspects of the electronic supplementary material. No editorial adjustments were made.

Electronic Supplementary Material (ESM)

Figure S1. Example of the gas chromatogram of fatty acid methyl esters of milk fat extracted from cow's bulk milk sample with flame-ionization detector

Table S1. Chromatography determination characteristics

Table S2. Distribution of individual fatty acids (FAs) into groups

https://doi.org/10.17221/84/2024-CJAS

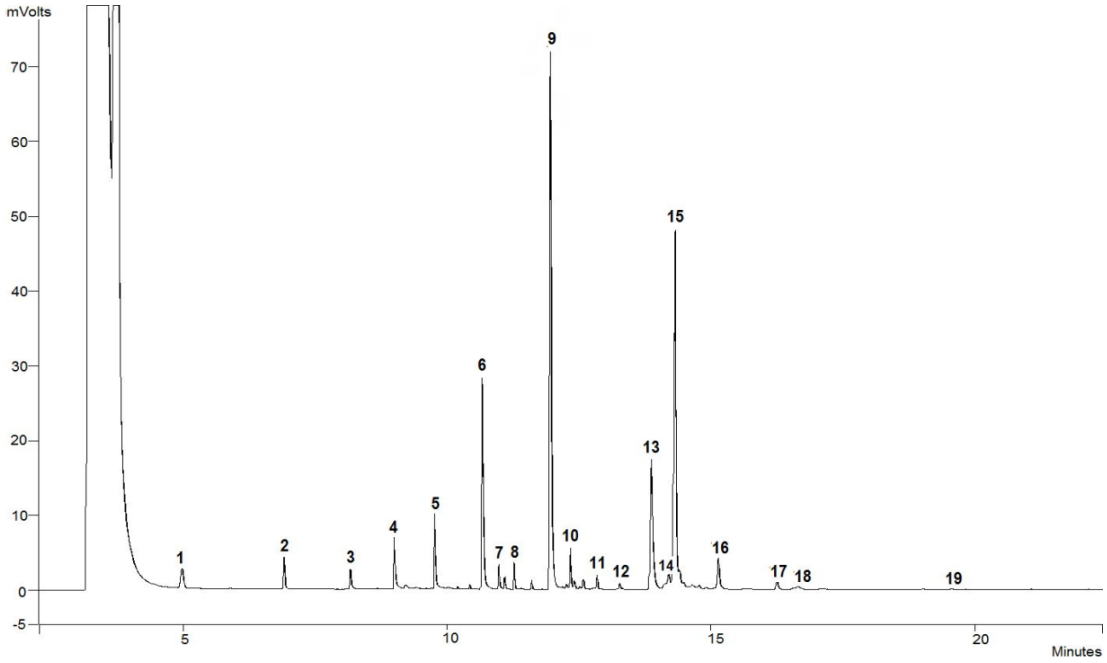

Figure S1. Example of the gas chromatogram of fatty acid methyl esters of milk fat extracted from cow's bulk milk sample with flame-ionization detector

[1]C4:0; [2]C6:0; [3]C8:0; [4]C10:0; [5]C12:0; [6]C14:0; [7]C14:1 *cis*-9; [8]C15:0; [9]C16:0; [10]C16:1 *cis*-9; [11]C17:0; [12]C17:1 *cis*-10; [13]C18:0; [14]C18:1 *trans*-11; [15]C18:1 *cis*-9; [16]C18:2n-6; [17]C18:3n-3; [18]C18:2 *cis*-9, *trans*-11; [19]C20:4n-6.

Table S1. Chromatography determination characteristics

Characteristics		Value
Temperature	oven	55 °C – 5 min, 40 °C/min – 170 °C, 2 °C/min – 196 °C, 10 °C /min – 210 °C – 8 min
	injector	250 °C
	detector	250 °C
Helium flow		1.8 ml/min
Injection		1 µl, split 10

https://doi.org/10.17221/84/2024-CJAS

Table S2. Distribution of individual fatty acids (FAs) into groups

Groups (*n* of FAs)		FAs included in the group
According to saturation	SFA (17)	C4:0; C6:0; C8:0; C10:0; C11:0; C12:0; C13:0; C14:0; C15:0; C16:0; C17:0; C18:0; C20:0; C21:0; C22:0; C23:0; C24:0
	UFA (29)	MUFA + PUFA
	MUFA (19)	C10:1; C12:1; C15:1; C16:1; C16:1; C16:1n-7 (*cis*-9); C16:1; C17:1n-7 (*cis*-10); C18:1 (*trans*); C18:1n-7 (*trans*-11); C18:1n-9 (*cis*-9); C18:1n-7 (*cis*-11); C18:1; C18:1; C19:1; C19:1; C20:1n-9 (*cis*-11); C20:1n-7 (*cis*-13); C23:1
	PUFA (10)	C18:2; C18:2n-6 (*cis*-9, *cis*-12); C18:3; C18:3n-3 (all *cis*-9,12,15); C18:2 (*cis*-9, *trans*-11); C20:3n-6 (all *cis*-8,11,14); C20:4n-6 (all *cis*-5,8,11,14); C20:4n-3 (all *cis*-8,11,14,17); C20:5n-3 (all *cis*-5,8,11,14,17); C22:5n-3 (all *cis*-7,10,13,16,19)
	TFA (3)	C18:1 (*trans*); C18:1n-7 (*trans*-11); C18:2 (*cis*-9, *trans*-11)
According to chain length	SCFA (11)	C4:0; C6:0; C8:0; C10:0; C10:1; C11:0; C12:0; C12:1; C12:1+iso-C13:0; *anteiso*-C13:0; C13:0
	MCFA (16)	*iso*-C14:0; C14:0; C14:1n-5 (*cis*-9) + *iso*-C15:0; *anteiso*-C15:0; C15:0; C15:1; *iso*-C16:0; C16:0; C16:1; C16:1; C16:1n-7 (*cis*-9); *iso*-C17:0; C16:1; *anteiso*-C17:0; C17:0; C17:1n-7 (*cis*-10)
	LCFA (29)	C18:0; C18:1 (*trans*); C18:1n-7 (*trans*-11); C18:1n-9 (*cis*-9); C18:1n-7 (*cis*-11); C18:1; C18:1; C18:1 + C18:2; C18:2; C18:2n-6 (*cis*-9, *cis*-12); C19:1; C18:3; C18:3n-3 (all *cis*-9,12,15), C20:0; C18:2 (*cis*-9, *trans*-11); C20:1n-9 (*cis*-11); C20:1n-7 (*cis*-13); C18:2 + C20:1; C21:0; C19:1; C20:3n-6 (all *cis*-8,11,14), C20:4n-6 (all *cis*-5,8,11,14); C22:0; C20:4n-3 (all *cis*-8,11,14,17); C20:5n-3 (all *cis*-5,8,11,14,17); C23:0; C23:1; C24:0; C22:5n-3 (all *cis*-7,10,13,16,19)

LCFA = long-chain FAs; MCFA = medium-chain FAs; MUFA = monounsaturated FAs; PUFA = polyunsaturated FAs; SCFA = short-chain FAs; SFA = saturated FAs; TFA = *trans* isomers of unsaturated FAs; UFA = unsaturated FAs