Supplementary data

Butter meal

Cheese meal

Whipped cream meal

Sour cream meal

Supplemental Figure 1. Pictures of the dairy meals used in the study

Supplementary data

Supplemental Table 1. Fatty acid composition (% of total) of the dairy products[1]

Fatty acid	Butter	Cheese	Whipped cream	Sour cream
4:0	4.1 (4.1-4.2)	4.2 (4.2-4.3)	4.1 (4.0-4.1)	4.1 (4.1-4.2)
6:0	2.5 (2.4-2.5)	2.5 (2.4-2.6)	2.5 (2.4-2.5)	2.5 (2.4-2.6)
8:0	1.4 (1.4-1.4)	1.4 (1.4-1.5)	1.5 (1.4-1.5)	1.4 (1.4-1.5)
10:0	3.0 (3.0-3.1)	3.0 (2.9-3.3)	3.2 (3.1-3.2)	3.1 (3.0-3.3)
12:0	3.4 (3.4-3.4)	3.3 (3.1-3.7)	3.6 (3.5-3.7)	3.4 (3.2-3.6)
14:0	11.2 (11.1-11.2)	10.7 (10.1-11.6)	11.5 (11.1-11.7)	11.0 (10.4-11.5)
14:1cis-9	1.1 (1.1-1.1)	1.0 (1.0-1.1)	1.1 (1.1-1.2)	1.1 (1.0-1.1)
15:0	0.9 (0.9-0.9)	0.9 (0.8-0.9)	1.0 (0.9-1.0)	0.9 (0.9-0.9)
16:0	31.4 (31.0-31.8)	29.5 (28.8-30.2)	29.6 (28.8-30.4)	28.6 (27.1-29.7)
16:1cis-9	1.2 (1.2-1.3)	1.3 (1.2-1.4)	1.3 (1.3-1.3)	1.3 (1.2-1.3)
17:0	0.5 (0.5-0.5)	0.5 (0.5-0.5)	0.5 (0.5-0.5)	0.5 (0.5-0.6)
18:0	10.6 (10.5-10.7)	10.7 (10.4-11.0)	10.8 (10.5-11.0)	11.0 (10.7-11.5)
18:1trans-9	0.2 (0.2-0.2)	0.2 (0.2-0.2)	0.2 (0.2-0.2)	0.2 (0.2-0.2)
18:1trans-10	0.3 (0.3-0.3)	0.3 (0.3-0.3)	0.2 (0.2-0.3)	0.3 (0.2-0.3)
18:1trans-11	1.1 (1.0-1.2)	1.4 (1.3-1.5)	1.2 (1.1-1.3)	1.3 (1.1-1.5)
18:1cis-9	20.0 (19.7-20.1)	21.2 (19.5-22.5)	20.4 (19.6-21.3)	21.5 (20.2-22.9)
18:1cis-11	0.7 (0.7-0.7)	0.8 (0.7-0.8)	0.7 (0.7-0.7)	0.7 (0.7-0.8)
18:2n-6	1.5 (1.4-1.6)	1.7 (1.6-1.8)	1.5 (1.5-1.6)	1.6 (1.6-1.8)
18:3n-3	0.4 (0.4-0.4)	0.5 (0.4-0.5)	0.5 (0.4-0.5)	0.5 (0.4-0.6)
18:2cis-9-trans-11 (CLA)	0.5 (0.5-0.5)	0.7 (0.6-0.7)	0.5 (0.5-0.6)	0.6 (0.5-0.7)
20:0	0.1 (0.1-0.2)	0.2 (0.1-0.2)	0.2 (0.2-0.2)	0.2 (0.2-0.2)
20:4n-6 (ARA)	0.1 (0.1-0.1)	0.1 (0.1-0.1)	0.1 (0.1-0.1)	0.1 (0.1-0.1)
20:5n-3 (EPA)	0.1 (0.1-0.1)	0.1 (0.1-0.1)	0.1 (0.1-0.1)	0.1 (0.1-0.1)
22:5n-3 (DPA)	0.1 (0.1-0.1)	0.1 (0.1-0.1)	0.1 (0.1-0.1)	0.1 (0.1-0.1)
22:6n-3 (DHA)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)	0.0 (0.0-0.0)
Unknown	3.7 (3.6-3.9)	3.7 (3.5-3.8)	3.9 (3.8-4.0)	3.9 (3.9-4.0)

[1]Data are presented as means (minimum-maximum value) based on three samples per product taken from different months during the study period. ARA, arachidonic acid; DPA, docosapentaenoic acid; n, omega.

Supplementary data

Supplemental Table 2. Coefficients and *P*-values for the fixed effects age, sex, and BMI, and *P*-values for the meal effect from the linear mixed model[1]

iAUC	Meal *P*	BMI coef.	BMI *P*	Sex[2] coef.	Sex *P*	Age coef.	Age *P*
Serum TGs	**<0.001**	0.07	0.08	0.59	0.05	0.02	0.20
Serum TC	0.37	0.07	**0.03**	0.41	0.10	-0.02	0.11
Serum LDL-C	0.21	0.05	**0.007**	0.33	**0.03**	-0.02	**0.01**
Serum HDL-C	**0.02**	0.03	**0.03**	0.03	0.78	-0.01	0.10
Serum insulin	**0.006**	31.60	**0.001**	-197.36	**0.007**	-0.19	0.95
Serum glucose	0.26	0.09	0.19	-1.03	**0.04**	-0.08	**<0.001**
Serum NEFAs	0.06	-0.01	0.54	-0.09	0.53	-0.01	0.18
Plasma GIP	0.39	-8.56	0.85	-751.31	**0.03**	29.99	**0.03**

[1]C, cholesterol; coef, coefficient; GIP, glucose-dependent insulinotropic polypeptide; iAUC, incremental area under the curve; NEFA, non-esterified fatty acid; TC, total cholesterol.
[2]Men compared to women.

Supplementary data

Supplemental Table 3. Coefficients and *P*-values for meal comparisons for variables with a statistically significant meal effect on TG-iAUC$_{0\text{-}6\ h}$, HDL-C-iAUC$_{0\text{-}6\ h}$, and insulin-iAUC$_{0\text{-}6\ h}$ from the linear mixed model[1]

			Coef.	*P*	*P**
Serum TGs					
C	vs.	B	0.24	0.20	1
WC	vs.	B	-0.02	0.90	1
SC	vs.	B	0.75	**<0.001**	**<0.001**
WC	vs.	C	-0.27	0.15	0.91
SC	vs.	C	0.50	**0.008**	**0.05**
SC	vs.	WC	0.77	**<0.001**	**<0.001**
Serum HDL-C					
C	vs.	B	-0.09	0.32	1
WC	vs.	B	0.04	0.68	1
SC	vs.	B	0.18	**0.04**	0.22
WC	vs.	C	0.12	0.15	0.92
SC	vs.	C	0.26	**0.002**	**0.01**
SC	vs.	WC	0.14	0.09	0.53
Serum insulin					
C	vs.	B	118.82	**0.001**	**0.006**
WC	vs.	B	35.56	0.33	0.14
SC	vs.	B	82.71	**0.02**	0.13
WC	vs.	C	-83.27	**0.02**	0.92
SC	vs.	C	-36.11	0.33	1
SC	vs.	WC	47.15	0.19	1

[1]Pairwise meal comparisons were performed by combining the appropriate regression coefficients from the linear mixed model. The coefficients represent the differences between the meals. C, cholesterol; Coef., coefficient; B, meal rich in fat from butter; C, meal rich in fat from medium-hard cheese; iAUC, incremental area under the curve; SC, meal rich in fat from sour cream; WC, meal rich in fat from whipped cream.
*Bonferroni corrected *P*-value.