SUPPORTING INFORMATION

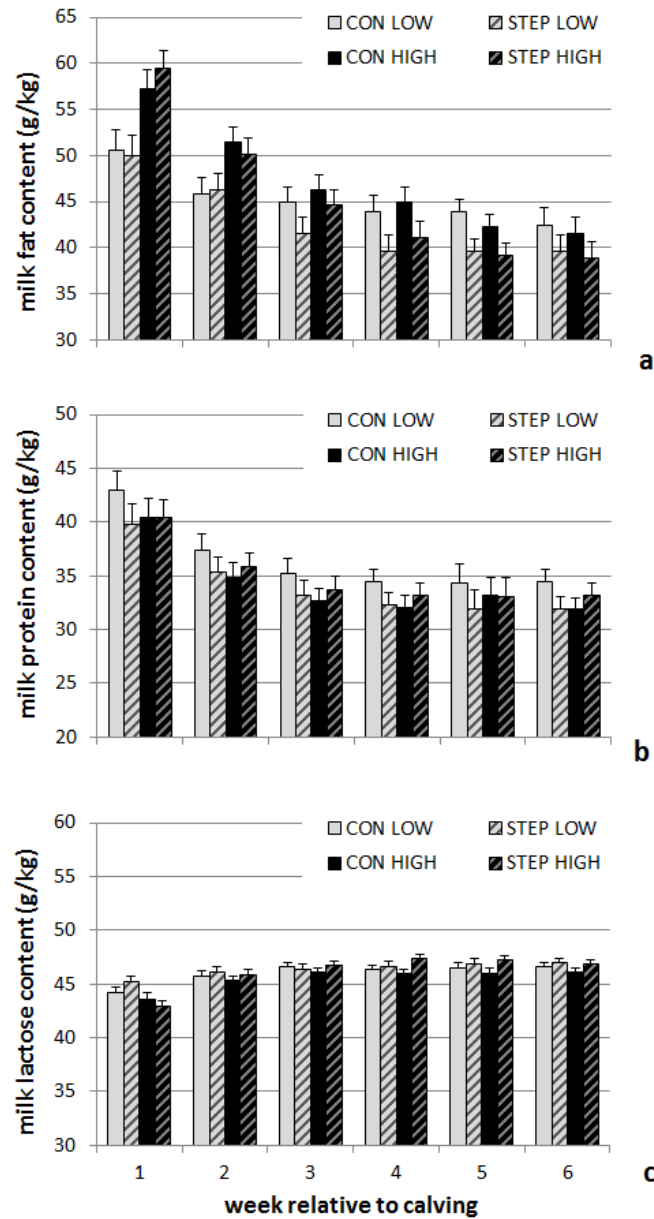**Physical exercise prepartum supports metabolic adaptation in the transition period of dairy cattle**

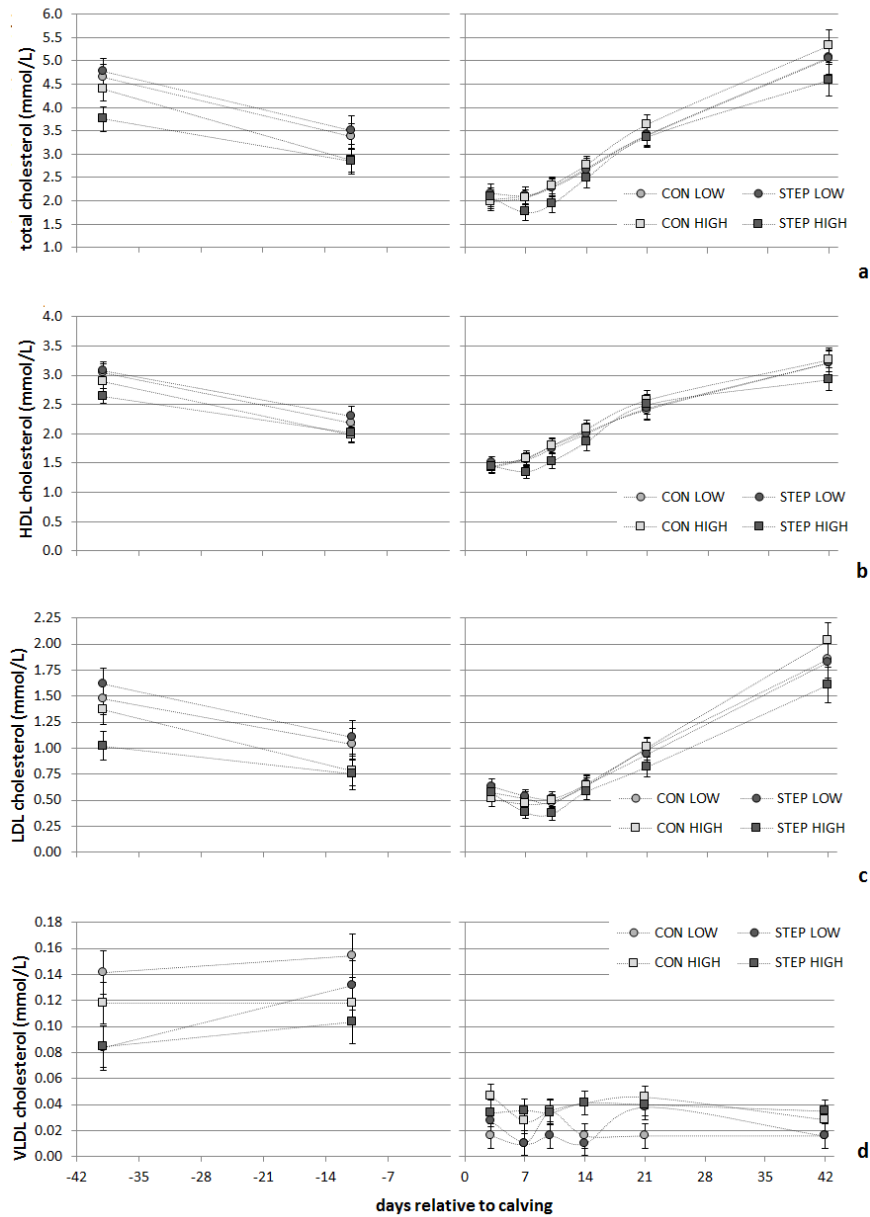R. M. A. Goselink, J. T. Schonewille, G. van Duinkerken, and W. H. Hendriks

Table S1 Model characteristics and variance components of the random coefficient model analysis of each parameter by REML method.

	Deviance (df)	Variance components		Hetero-geneity	Variance component Cow × Time					
		Cow	Time							
Liver TG										
g/kg wet weight	249 (32)	120.7	-	None	256.2					
relative to wk-2	67 (32)	-5.5	0.86	None	7.39					
Prepartum					*wk-6*	*wk-5*	*wk-4*	*wk-3*	*wk-2*	*wk-1*
DMI (kg/d)	230 (142)	0.74	0.22	Outside	2.61	0.64	0.85	1.00	0.82	0.99
NE$_L$ bal (kJ/kg$^{0.75}$·d^{-1})	1130 (118)	1576.4	0.26	Outside	5030	978	1634	1498	1269	1413
NEFA (mmol/L)	-67 (47)	0.045	0.34	None	0.34					
BHB (mmol/L)	-62 (47)	0.038	-0.85	None	0.038					
Cholesterol (mmol/L)	18 (47)	0.27	0.41	None	0.27					
HDL-chol (mmol/L)	-38 (47)	0.069	-0.07	None	0.069					
LDL-chol (mmol/L)	-47 (47)	0.080	0.56	None	0.080					
VLDL-chol (mmol/L)	-248 (47)	0.001	0.097	None	0.001					
Postpartum					*wk1*	*wk2*	*wk3*	*wk4*	*wk5*	*wk6*
DMI (kg/d)	306 (146)	2.3	0.63	Outside	5.9	3.3	1.9	2.0	2.0	1.4
Milk yield (kg/d)	415 (146)	32.8	0.56	Outside	11.0	3.4	1.5	4.1	1.6	1.6
FPCM (kg/d)	446 (144)	19.1	0.81	Outside	23.5	12.7	8.0	5.8	7.0	0.7
Milk fat (g/kg)	584 (144)	10.3	0.39	Outside	22.7	11.3	10.9	11.8	3.9	13.8
Milk protein (g/kg)	362 (144)	9.3	0.82	Outside	13.6	4.8	3.3	1.7	13.9	1.0
Milk lactose (g/kg)	131 (144)	0.97	0.37	Outside	1.41	0.70	0.31	0.35	0.90	0.09

Fat yield (kg/d)	-411 (144)	0.043	0.80	Outside	0.072	0.050	0.032	0.022	0.030	0.000
Protein yield (kg/d)	-529 (144)	0.027	0.83	Outside	0.035	0.017	0.012	0.005	0.031	0.004
Lactose yield (kg/d)	-491 (144)	0.057	0.60	Outside	0.027	0.011	0.007	0.012	0.007	0.000
NE$_L$ bal (kJ/kg$^{0.75}$·d^{-1})	1280 (121)	12248	0.61	Outside	12545	8783	5343	7103	3550	240
NEFA (mmol/L)	-236 (147)	0.015	0.21	None	0.050					
BHB (mmol/L)	-220 (142)	0.008	0.35	Outside	0.040	0.300	0.065	0.110	0.013	0.048
Cholesterol (mmol/L)	-150 (142)	0.20	0.69	Outside	0.086	0.053	0.055	0.116	0.180	0.718
HDL-chol (mmol/L)	-256 (142)	0.072	0.75	Outside	0.002	0.035	0.050	0.098	0.154	0.237
LDL-chol (mmol/L)	-346 (142)	0.021	0.58	Outside	0.024	0.007	0.012	0.026	0.053	0.207
VLDL-chol (mmol/L)	-913 (147)	0.0001	0.076	None	0.001					

Figure S1 Average milk content (g/kg) of a) fat; b) protein; and c) lactose for each treatment group during the experiment. Figures showing predicted means by REML analysis with SEM.

Figure S2 Average plasma concentration (in mmol/L) of a) total cholesterol; b) HDL cholesterol; c) LDL cholesterol; and d) VLDL cholesterol. Figures showing predicted means by REML analysis with SEM.