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Supplementary Material

Feeding extruded linseed or soybean and hay free-choice to Rubia Gallega young heifers does not substantially alter health-enhancing fatty acids in meat

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Table A. Effect of dietary oilseed source on the polyunsaturated fatty acid composition (% of total fatty acid) of *longissimus thoracis* and *subcutaneous* fat from Rubia Gallega young heifers.

	<i>Longissimus thoracis</i>					<i>Subcutaneous fat</i>				
	Concentrate					Concentrate				
	C	LS	SYS	SEM	<i>p</i>	C	LS	SYS	SEM	<i>p</i>
Total lipid (g/100g tissue)	2.23	1.99	2.40	0.21	0.38	90.29	88.61	88.42	3.49	0.91
Total FAME (g/100g tissue)	1.73	1.58	1.90	0.17	0.40	69.57	69.04	71.60	3.38	0.84
<i>Polyunsaturated fatty acids (PUFA)</i>										
18:2n-6c (LA)	6.06	6.41	7.26	0.656	0.40	2.08 ^b	2.08 ^b	2.94 ^a	0.195	0.0047
20:3n-6	0.44	0.42	0.38	0.045	0.61	-	-	-	-	
20:4n-6 (ARA)	1.48	1.55	1.42	0.168	0.87	-	-	-	-	
22:4n-6	0.14	0.11	0.12	0.011	0.18	-	-	-	-	
Σn-6	8.19	8.52	9.21	0.861	0.68	2.21 ^b	2.17 ^b	3.05 ^a	0.201	0.0063
18:3n-3 (LNA)	0.87 ^b	1.18 ^a	0.82 ^b	0.103	0.0411	0.36 ^c	0.67 ^a	0.49 ^b	0.037	<.0001
20:5n-3 (EPA)	0.52	0.67	0.47	0.083	0.23	-	-	-	-	
22:5n-3 (DPA)	0.77	0.88	0.66	0.087	0.23	-	-	-	-	
22:6n-3 (DHA)	0.11	0.11	0.10	0.024	0.90	-	-	-	-	
Σn-3	2.28	2.87	2.08	0.283	0.13	0.41 ^c	0.72 ^a	0.53 ^b	0.041	0.0001
Total CLA	0.62	0.41	0.50	0.065	0.10	0.66	0.53	0.57	0.076	0.49
ΣPUFA	11.13	11.86	11.84	1.068	0.86	3.29 ^b	3.44 ^b	4.17 ^a	0.222	0.0188

C: control; LS: linseed; SYS: soybean-seed

^{a,b,c} Means within a row with different superscripts differ significantly ($P \leq 0.05$); SEM: standard error of mean.

Σn-6= 18:2n-6, 18:3n-6, 20:3n-6, 20:4n-6 and 22:4n-6, Σn-3= 18:3n-3, 20:3n-3, 20:5n-3, 22:5n-3 and 22:6n-3, total CLA= combined peak of c9:11-18:2 and t7:c9-18:2; Σ PUFA= Σn-6, Σn-3 and total CLA

Table B. Effect of dietary oilseed source on the monounsaturated fatty acid composition (% of total fatty acid) of *longissimus thoracis* and *subcutaneous* fat from Rubia Gallega young heifers.

	<i>Longissimus thoracis</i>					<i>Subcutaneous fat</i>				
	Concentrate					Concentrate				
	C	LS	SYS	SEM	<i>p</i>	C	LS	SYS	SEM	<i>p</i>
<i>Monounsaturated fatty acids (MUFA)</i>										
Σ(t6- to t10-)18:1	0.87 ^{ab}	0.46 ^b	1.19 ^a	0.144	0.0058	1.13	0.87	1.65	0.227	0.0514
t11-18:1 (VA)	1.19	1.29	1.27	0.094	0.73	1.68	1.52	1.44	0.183	0.65
t12-18:1	0.17	0.13	0.14	0.049	0.88	0.22	0.26	0.26	0.026	0.47
Σt13+t14-18:1 ^A	0.39 ^b	0.61 ^a	0.38 ^b	0.010	<.0001	0.39 ^b	0.56 ^a	0.41 ^b	0.011	<.0001
Σ(t6- to t10-)18:1/VA ratio	0.80	0.36	1.11	0.237	0.0940	0.80	0.61	1.39	0.285	0.13
Σt18:1	2.78 ^b	2.70 ^b	3.19 ^a	0.141	0.0405	3.60	3.53	4.00	0.205	0.20
ΣtMUFA	2.84 ^{ab}	2.72 ^b	3.23 ^a	0.145	0.0463	3.63	3.58	4.05	0.204	0.19
c9-16:1	2.95	2.64	2.95	0.149	0.27	4.56	4.18	4.62	0.338	0.57
c9-18:1 (OA)	34.22	34.13	32.63	0.853	0.32	34.74	36.07	34.64	0.838	0.38
c11-18:1	1.76	1.63	1.57	0.101	0.39	1.42	1.36	1.39	0.098	0.89
c12-18:1	0.18	0.21	0.20	0.021	0.55	0.13 ^b	0.24 ^a	0.20 ^a	0.018	0.0027
c13-18:1	0.17	0.22	0.20	0.017	0.23	0.22	0.29	0.24	0.029	0.19
c15-18:1	0.14	0.17	0.16	0.010	0.0813	0.14 ^b	0.24 ^a	0.18 ^b	0.017	0.0023
ΣcMUFA	40.86	40.53	39.21	0.966	0.43	43.11	44.58	43.32	1.062	0.55
ΣMUFA	43.70	43.25	42.43	0.959	0.62	46.74	48.15	47.37	1.052	0.62

C: control; LS: linseed; SYS: soybean-seed

^{a,b,c} Means within a row with different superscripts differ significantly ($p \leq 0.05$); SEM: standard error of mean.

Σt6- to t10-18:1= t6-18:1, t7-18:1, t8-18:1, t9-18:1 and t10-18:1; Σt18:1= Σt6- to t10-18:1, t11-18:1, t12-18:1, t13+t14-18:1 and t16-18:1; ΣtMUFA= t9-16:1, t11/t12-16:1 and Σt18:1; ΣcMUFA= c9-14:1, c9-15:1, c7-16:1, c9-16:1, c9-17:1, c9-18:1, c11-18:1, c12-18:1, c13-18:1, c15-18:1, c9-20:1, c11-20:1 and c13-22:1; ΣMUFA= ΣcMUFA + ΣtMUFA.

^ACoelution with c6/c7/c8-18:1.

Table C. Effect of dietary oilseed on the saturated and branched-chain fatty acid composition (% of total fatty acid) and nutritional indexes of *longissimus thoracis* and *subcutaneous* fat from Rubia Gallega young heifers.

	<i>Longissimus thoracis</i>					<i>Subcutaneous fat</i>				
	Concentrate					Concentrate				
	C	LS	SYS	SEM	<i>p</i>	C	LS	SYS	SEM	<i>P</i>
<i>Saturated and Branched-Chain fatty acids (SFA and BCFA)</i>										
14:0	2.61	2.43	2.91	0.148	0.0816	3.84	3.99	4.60	0.304	0.17
16:0	25.39	24.55	24.78	0.413	0.35	28.89	27.10	27.82	0.706	0.42
18:0	14.80	15.76	15.70	0.733	0.59	13.35	14.83	13.53	1.046	0.52
ΣSFA	44.41	44.22	45.03	0.769	0.72	47.22	47.58	47.68	1.175	0.96
ΣBCFA	0.77	0.66	0.68	0.050	0.31	0.77	0.81	0.78	0.067	0.86

C: control; LS: linseed; SYS: soybean-seed.

^{a, b, c} Means within a row with different superscripts differ significantly ($P \leq 0.05$); SEM: standard error of mean.

ΣSFA=14:0, 15:0, 16:0, 17:0, 18:0, 19:0, 20:0, 21:0, 22:0, 23:0 and 24:0; ΣBCFA=15:0_{iso}, 15:0_{ant}, 16:0_{iso}, 17:0_{iso} and 17:0_{ant}.