

Table 4-4: Comparisons of Steak from Grass-fed and Conventionally Raised Cattle*

Study and Feeding Regimen	% Total Fat	Saturated Fat (g/100 g serving)	ALA (mg/100 g serving)	EPA/DHA (mg/100 g serving)	CLA (mg/100 g serving)	Omega-6/Omega-3 Ratio
Descalzo et al. 2005						
Pasture	2.7 ^a	1.2 [†]	38 [‡]			3.8 ^a
Grain	4.7	2.2	33			6.7
Dhiman et al. 2005						
Pasture	3.3 ^{**}		16 ^{**}		72 ^{**}	
Total mixed rations	5.6		17		22	
Duckett n.d.^{***}						
Pasture	2.34 ^a	1.0 [‡]	25 [‡]	10 [‡]	18 [‡]	1.8 ^a
Corn silage concentrate	4.03	1.7	16	5	14	4.8
Duckett et al. 1993						
Pasture	2.52 ^a	1.2 [‡]	23 [‡]	31 [‡]		7.1 [†]
140 days on concentrate	9.73	4.7	8	14		55.0
Duynisveld, Charmley, and Mir n.d.^{***}						
Pasture	4.89	1.84	50 ^a		22 ^a	2.52
Total mixed rations	5.77	2.53	43		17	2.65
Enser et al. 1998						
Steers (pasture)	2.86 ^a	1.2 [‡]	33 ^a			2.0 [†]
Bulls (barley/soy concentrate)	2.07	0.8	10			11.2
French et al. 2000						
Grazed grass	4.36	1.8	49 ^a		47 ^a	1.9 ^a
6 kg grazed grass + 5 kg concentrate	4.49	2.0	39 ^b		24 ^b	3.0 ^b
Grass silage + 4 kg concentrate	4.08	1.9	28 ^c		19 ^b	3.8 ^b
Ponnampalam et al. n.d.^{***}						
Grass		0.8 ^a	32 ^b		14 ^b	3.4
Short-term barley/soy concentrate		0.6 ^a	10 ^a		7 ^a	11.5 ^{**}
Long-term barley/soy concentrate		1.4 ^b	15 ^a		16 ^b	11.2
Rule et al. 2002						
Range	1.07 ^a	0.4 [‡]	16 [‡]	31 [‡]	4 [‡]	2.7 ^a
Feedlot	2.88	1.3	6	18	7	14.9
Scollan et al. 2003						
Grass/white clover	3.4 ^{**}	1.4 ^{**}	66 ^{**}	31 ^{**}		1.5 ^{**}
Purchased	3.8	1.6	26	12		2.2
Sinclair et al. 2002						
Grass		1.5 ^a			26 ^a	◇ 1.8 [†]
Short-term grain		1.1			9	3.8
Steen et al. 2003						
Experiment 1 (heifers)				L		◇
Ryegrass	3.9	1.8	77	49		1.7
Ad lib 70% barley/soy concentrate	4.3	1.9	29 ^a	30 ^a		5.0 ^a
Ad lib 95% barley/soy concentrate	5.0	2.4	26	27		5.2
Experiment 2 (steers)				L		◇
Ryegrass	2.7	1.1	90	70		1.5
Ad lib 70% barley/soy concentrate	2.4	1.0 ^a	20 ^a	30 ^a		6.6 ^a
Ad lib 95% barley/soy concentrate	3.4	1.5	20	40		6.1
Yang et al. 2002						
Pasture	1.71 ^a	0.7 [‡]	31 [‡]	22 [‡]	4 [‡]	3.6 [‡]
Sorghum-based concentrate	3.63	1.7	14	12	2	9.4

* All studies contained at least one group raised on pure pasture.

^{a,b,c} Mean values with unlike superscripts are significantly different from each other at $p \leq 0.05$.

L Long-chain omega-3 polyunsaturated fatty acids.

** Significance was not reported.

*** No date (study not yet published).

[†] Significance cannot be calculated because this number was computed by the author of this report.

[‡] Significance of the difference between values cannot be calculated because statistics in the original study are based on fatty acid percentage (not on a per serving basis) and the percentage of total fat is significantly different.

◇ Ratio calculated from total omega-6 and omega-3 fatty acids.