

LIPID FRACTION COMPOSITION OF THE LONGISSIMUS THORACIS OF LIDIA BEEF BREED

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INTRODUCTION

Lidia breed is reared to achieve certain characteristics and behaviour in the bullring. Meat production is not the main aim for farmers, but it has commercial interest. The husbandry system is extensive in natural environments such as dehesa meadows, which results in particular characteristics of the meat in comparison with fattening units.

OBJECTIVE

To differentiate meat from different commercial products from Lidia breed

MATERIAL AND METHODS

- 20 Bulls from the bullring (5.4 yo, 320.7 kg CCW)
- 10 Heifers (2.6 yo, 115.7 kg CCW) from the slaughter house
- 6 Cows (15.2 yo, 153.8 CCW) from the slaughter house
- Longissimus thoracis L5-L6
- Lipid content: ISO 1443:1973
- Fatty acid composition: Bligh & Dyer, 1959
KOH methylation
- Gas chromatography HP 6890



Lipid content (g/100g muscle) and intramuscular fatty acid composition (g/100g of total fatty acids) of Longissimus thoracis

	HEIFER		BULL		COW		P
	mean	sd	mean	sd	mean	sd	
Lipid content	2.59 b	0.60	1.57 c	0.42	4.99 a	1.90	<0.001
C14:0	1.91 b	0.25	1.52 c	0.28	2.79 a	0.50	<0.001
C16:0	23.83 b	1.57	21.67 c	1.65	28.74 a	2.56	<0.001
C18:0	19.97 a	1.57	16.89 b	2.98	18.13 ab	2.00	0.013
C16:1 n-7	2.43 b	0.37	2.47 b	0.38	3.06 a	0.40	0.005
C18:1 n-9	32.32	1.77	32.28	3.66	34.67	3.31	0.266
C18:2 n-6	5.89 b	1.31	12.94 a	4.19	3.69 b	0.51	<0.001
C18:3 n-3	0.30 a	0.04	0.17 b	0.12	0.20 ab	0.05	0.006
C20:4 n-6	1.92 ab	0.85	2.91 a	1.21	0.94 b	0.33	0.001
SFA	48.32 a	2.01	41.56 b	4.10	51.75 a	3.03	<0.001
MUFA	40.53	2.12	40.04	4.05	41.62	3.47	0.630
PUFA	10.08 b	2.60	17.54 a	5.86	5.78 b	0.83	<0.001
n-6	8.24 b	2.13	16.40 a	5.52	4.94 b	0.77	<0.001
n-3	1.53 a	0.56	0.95 b	0.41	0.62 b	0.08	<0.001
PUFA/SFA	0.21 b	0.06	0.44 a	0.18	0.11 b	0.02	<0.001
n-6 PUFA/n-3 PUFA	5.61 b	0.89	18.89 a	6.73	7.94 b	1.00	<0.001

SFA: Saturated fatty acids; MUFA: Monounsaturated fatty acids; PUFA: Polyunsaturated fatty acids;

CONCLUSIONS

- The fatty acid profile reflects the nutrition pattern during the last rearing period. Even while suffering a drought that reduces the availability of pastures, heifers are not supplemented. However, a more valuable animal such as the bull receives concentrates with cereals that modifies the fatty acid profile. These differences support the differentiation of products at retail.