Effects of extruded linseed in ewe diets on the intramuscular fatty acid profile of suckling lamb

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Introduction

Suckling lamb meat is widely consumed in Mediterranean countries, specially in the north of Spain. In recent years there has been a growing interest in healthy food and more specifically the n-3 PUFA and CLA content in meat, due to their beneficial effects on human health. Changes in milk fatty acid composition due to lipid supplements in the dam diet, can induce important differences in the meat fatty acid profile of their suckling lambs. Linseed supplementation could be an alternative feeding strategy to increase the vaccenic, rumenic and n-3 PUFA content in milk fat from ewes and, therefore, in suckling lamb meat.

Objective

The aim of this study was to evaluate the effects of suplementing lactating ewe diets with extruded linseed on the fatty acid composition of intramuscular fat of suckling lambs

Methods

	CONTROL	Lin
Ingredients, % as fed		
Deshydrated alfalfa	39.3	37.0
Soybean meal	13.9	12.9
Corn grain	11.8	11.1
Oat grain	10.4	9.7
Barley grain	7.8	7.4
Beet pulp	7.8	7.4
Molasses	4.9	4.6
Calcium soap of palm oil	3.0	
Extruded linseed[1]		9.0
Vitamin mineral premix	1.0	0.9

[1]Extruded linseed (VALOMEGA®, S.A.S. Valorex, La Messayais, Combourtille, France). Product consisted of 30% wheat middings and 70% extruded linseed

Each ewe consumed 2.1 kg of the corresponding isoenergetic diet

Lamb were slaughter 11 kg live weight

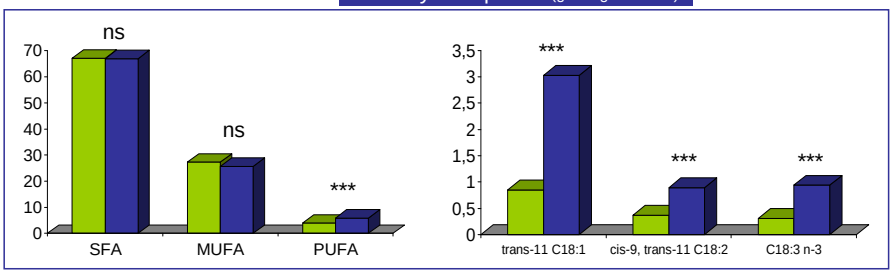
Lamb were reared exclusively on milk

FA profile of milk fat and intramuscular fat of suckling lamb were determined by Gas Cromatography

Milk fatty acid composition were analysed using the MIXED procedure and intramuscular fat composition using the GLM procedure of SAS

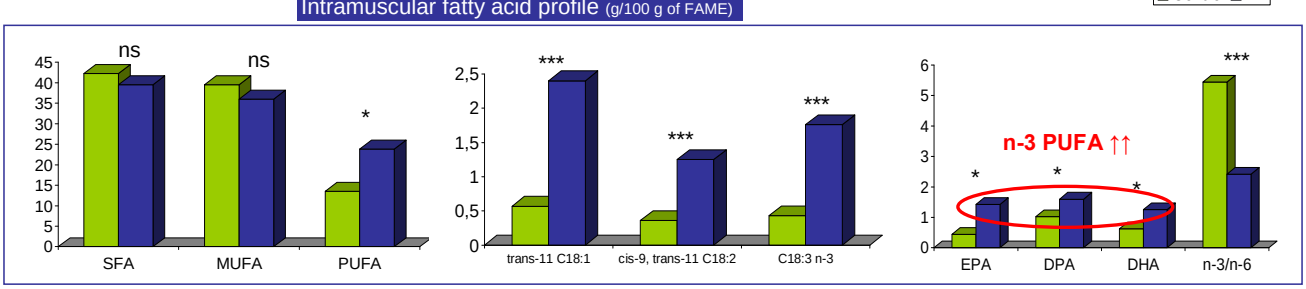
Results

Milk fatty acid profile (g/100 g of FAME)



FA profile of suckling lamb meat were similar to those of milk from suckled dams

Intramuscular fatty acid profile (g/100 g of FAME)



ns P > 0.05 ; * P < 0.05; *** P < 0.001

Conclusions

Dietary extruded linseed supplementation of lactating ewes enhances the nutritional quality of ewe milk fat and of suckling lamb meat.

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