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RELATIONSHIPS BETWEEN LAMB MUSCLE CHOLESTEROL AND INTRAMUSCULAR FAT CONTENT **.

Garcia, P. T.*, Pensel, N. A. and Morales, D. A.* Instituto Tecnología de Alimentos. CICV, INTA.

CC 77 (1708) Moron, Buenos Aires, Argentina

* FICA, UNLZ, Bs As, Argentina

** Group PECOP: INTA: EEA Trelew: Battro, P; EAA Alto Valle: Domingo, E.; EEA Rio Gallegos: Quargnolo, E. ITA, CICV, Castelli Garcia, P. T.; Gallingor, M. M. and Comingo, C. A. Garcia, P.T.; Gallinger, M. M. and Garriz, C. A.

S.A.G.P y A. Dirección de Produccion Ganadera.

Comisiones Provinciales de Carne Ovina Patagonica

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INTRODUCTION

According to the literature the cholesterol content of meats presents a wide variation, and quite often people related its amount to transport transport to the literature the cholesterol is a more transport to the literature the cholesterol is a more transport to the literature the cholesterol is a more transport to the literature the cholesterol is a more transport to the literature the cholesterol is a more transport to the literature the cholesterol is a more transport to the literature the cholesterol is a more transport to the literature the cholesterol is a more transport to the literature the cholesterol is a more transport to the literature the cholesterol is a more transport to the literature the cholesterol is a more transport to the literature the cholesterol is a more transport to the literature that the literature the cholesterol is a more transport to the literature that the lite intramuscular fat content. Cholesterol is a membrane lipid in meat and adipose tissues and the relation with meat fat content needs to investigated. Breidenstein and Corporate (1982) and the relation with meat fat content needs to investigated. investigated. Breidenstein and Carpenter (1983) stated that consumer prefer red meat products with less fat and then if cholesterol is not related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content the important point for any large related to intramuscular fat content for any large related to intramuscular fat related to intramuscular fat content the important point for producers is to reduce the amount of the intramuscular fat.

The aim of the present paper is to study in a large number of lamb muscles the relation between total muscle cholesterol intramuscular fat.

MATERIALS AND METHODS

The experimental animal were 180 Corriedale lambs with an average half carcass weight of 5.1±1.1 kg. They were grassing animal no variations for diet or sex were expected. Serving the carcase weight of 5.1±1.1 kg. They were grassing animal no variations for diet or sex were expected. and no variations for diet or sex were expected. Semimembranosus (SM) and Biceps femoris (BF) muscles were carefully dissected and slaughter. Aliquot samples from the mineral muscles were carefully dissected. slaughter. Aliquot samples from the minced muscles were used for quantification of intramuscular fat and cholesterol content. samples were extracted according to Folch et al. (1957) and one aliquot sample from the chloroform extract was used for intramuscular fat determination (IMF) and another for cholesteral determination (IMF) and another for cholesteral determination (IMF). intramuscular fat determination (IMF) and another for cholesterol determination with a colorimetric-enzymatic method appropriate the saponification (Garcia et al. 1995a.b). The data were analyzed using a Gorgan Line 13.6 (1995a.b).

RESULTS AND DISCUSSION

The average values for the two muscles analyzed are shown in Table 1. Cholesterol content (mg/100 g) and IMF% were higher in SM muscles. The muscle weight was lower in BF than in SM but the testal DFF. than in SM muscles. The muscle weight was lower in BF than in SM but the total IMF expressed in g in the whole muscle was similarly both muscles. both muscles

The CV% for the studied variables in the two muscles are presented in Table 2. The founded values were low for the muscle weight and high for IMF g. and high for IMF g.

The correlation coefficients between the studied variables in the two muscles are given in Table 3. The highest correlations were formulated to the muscle weight (0.80 p<0.01)). Within each muscle no significant correlations the muscle weight (0.80 p<0.01)). Within each muscle no significant correlations were detected, but between muscles the cholester content was related (r=0.37 n<0.05) content was related (r=0.37 p<0.05).

CONCLUSIONS

Muscle cholesterol in lamb Semitendinosus and Bicep femoris muscles were no significantly related to intramuscular fat percentages, had notesterol content was related between the two muscles (0.37 pc/0.01). Total intramuscular fat percentages, and the second percentages (0.37 pc/0.01). cholesterol content was related between the two muscles (0.37 p<0.01). Total intramuscular fat was more related (0.53 p<0.01) the intramuscular fat percentages (0.28 p<0.01) between the two muscles intramuscular fat percentages (0.28 p<0.01) between the two muscles.

REFERENCES

BREIDENSTEIN, B. C. and CARPENTER, Z. L. 1983. The red meat industry: Product and consumerism. J. Anim. Sci. 57 (Suppl 2) 119-132.

FOLCH, J., LEES. M. and SLOANE, S. G. H. 1957. A simple method for the isolation and purification of total lipids from animal tissues. J. Biol. Chem. 226:497-509

GARCIA, P. T., PENSEL, N. A. and MARGARIA, C. A. 1995a . Lipids in lamb meat. Procc. 41st International Congress on Medical Science and Technology. pp 58-59

GARCIA, P. T., CASAL, J. J., MARGARIA, C. A. and PENSEL, N. A. 1995b. Cholesterol content in different meats. Procedular International Congress on Meat Science and Technology. pp. 54-55

Table 1. Weight, intramuscular fat (% and g) and cholesterol content in Semimembranosus and Biceps femoris muscles. Mean±SD

			Semimembranosus	Biceps femoris
Veight g	316 7a	/3 In '	211±42 a	180±32 b
IF%	24.26	2.40	2.2±0.58 a	2.6±0.78 b
IF g	- laster		4.6±1.77 a	4.8±1.88 a
ol mg/100g	Elbini.	-126	54.1±14.9 a	57.1±11.9 b

Means with different letters are significantly different (p<0.05)

Table 2. Coefficient of variation (CV%) in the studied muscles.

Taller CE general release da	Semimembranosus	Biceps femoris	
eight g	20	18	
IF %	27	30	
IF g	38	39	
col mg/100g	28	21	

Table 3. Coefficient of correlation among the different variables in the studied muscles.

	SM g	BF g	SM GI%	BF GI%	SM GI g	BF GI g	Chol SM	Chol BF
l g	0 1 4.9 m - 2.6 m	1785 204 17	=0 51a 5 6±0 4	10/10/20318	5 6-0 200 19	e0.201 4.7±		
g	0.80**					No. 1	an pischena	A. 21, 1129
GI%	0.10	0.13	n in Table 2 In	s rig stir aspirits All for selection	ole propries of		Makes tolkio uses	esilo esilo. As sir ama s
GI%	0.03	0.10	0.30 **	leT ni merode e	let families in	To acumoqu	no bios vitali sal	ther ences.
GIg	0.62 **	0.53 **	0.82 **	0.27**	setsdasens har	ish iline f ave	as (Talés) ni	Intention or
GIg	0.42 **	0.55 **	0.34 **	0.87**	0.53**	C - Plant	arteline in sal 76 z	dan lama
ol SM	0.05	0.15	0.20	0.14	0.14		- 3/4	OMCDUSE:
ol BF	0.10	0.07	0.18	0.02	0.16	0.02	0.37**	nutil lamin

P<0.05 ** p<0.01

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