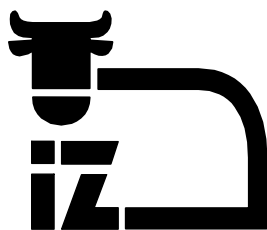


**EAAP 2010****61st Annual Meeting of the European Association
for Animal Production**

AUGUST 23rd-27th, 2010 - HERAKLION, CRETE ISLAND, GREECE

National Research Institute
of Animal Production

SESSION 16

POSTER 25

**CHEMICAL COMPOSITION AND QUALITY OF LAMB MEAT
AS RELATED TO FAT CONTENT OF *m. longissimus lumborum*****Borys B.¹, Grześkowiak E.², Borys A.²**¹*NRIAP Krakow*, ²*Institute of Agricultural and Food Biotechnology Warszawa (Poland)*; e-mail: bronislaw.borys@onet.eu**OBJECT OF RESEARCH:** differences in lamb meat quality were studied
in relation to intramuscular fat (IMF) content**MATERIAL AND METHODS:**

- 90 ram-lambs fattened intensely to mass 32-37 kg; 50% Kolumbia prolific sheep (KS) + 50% **F₁ crossbreeds Ile de France x KS**
- complete mixtures were fed *ad libitum* with hay
- *m. longissimus lumborum* was analysed for water, protein and fat content, pH₂₄ and EC₂₄, WHC, drip loss, weight loss, WB after cooking (WB), marbling and colour score, L*, a* and b*, and sensory score of grilled loin chops
- the material was graded according to IFC into three classes;
L - low, <1.50% (14 lambs), **O - optimal**, 1.51-2.50% (44) and **H - high**, >2.51% (32)

**RESULTS:**

	L (<1,5% IMF)		O; 1,5-2,5% IMF		H; >2,5% IMF	
	x	V%	x	V%	x	V%
Water; %	76,5 Aa	0,7	75,9 Ba	1,1	75,3 AB	1,3
Protein; %	21,3 A	2,9	21,0 a	3,4	20,6 Aa	4,4
Fat; %	1,25 AB	14,6	1,99 BC	11,6	3,07 AC	13,7
pH ₂₄	5,78	2,3	5,78	2,0	5,79	2,7
EC ₂₄	2,65	30,6	2,94	23,5	3,05	27,5
WHC; %	31,25	6,9	32,32	10,2	33,15	8,8
WB; N	85,8	27,8	77,3	28,6	83,1	22,8
Colour score; 1-5 pt	4,17 a	15,9	4,02 a	16,3	3,58 aa	27,8
Marbling score; 1-3 pt	1,55	22,5	1,66	25,3	1,71	22,1
Natural losses; %	1,9	39,3	1,6	67,2	1,8	50,7
Cooking losses; %	27,9	10,1	29,2	12,4	28,9	12,1
Sum of sensory scores; max 20 pt	18,3	3,0	18,4	3,5	18,2	3,3

AA, BB, CC - P≤0.01; aa - P≤0.05; aa - P≤0.10

CONCLUSION:

1. The increase in IMF content adversely affected the basic chemical composition of the meat, but had no effect on sensory scores.
2. The effect on physico-chemical traits varied, with the most favourable traits being found for meat with a 1.5-2.5% fat content, which is considered optimal in terms of lamb meat quality.