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Izlaganje sa znanstvenog skupa
Conference paper

EFFICIENCY OF EXTENSIVE MANAGEMENT OF SHEEP ON EXTENSIVE PASTURE FOR FATTENING AND SLAUGHTER PERFORMANCE AND MEAT QUALITY

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Summary

Lambs managed on extensive pasture showed with daily gain of 114 g (MS) and 187 g (SK x ML) an unsatisfied volume of muscles. The area of m.l.d. of 9.6 (MS) to 11.2 (SK) and 12.6 cm^2 (SK experiment extensive II) were low compared with the wanted level of 15 cm^2. A fattening afterwards utilitarian for the muscles growth (14.7 cm^2 - experiment II intensive).

MS and femal animals showed the highest intramuscular fat content m.l.d. (2.77 and 2.95%). The darkness of meat of MS was higher (31) than SK x ML (33.5). Differences in sex and management were not observed at this age.

The meat of lambs managed on extensive pasture is distinguished by a high content of linolenic acid, a low content of linoleic acid. The relation of omega 6 : omega 3 with 1.72 and 1.92 is very good from the nutritional point of view (optimum between 1 and 2). There are differences between breeds and sex regarding linolic and linolenic acid, PUFA, omega 6 and omega 3.

The aims of the examinations were:

1. The efficiency of extensive management on extensive pasture for fattening and slaughter performance and meat quality and
2. The estimation of the effects of pasture without and with fattening afterwards.

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Material and methods

Material: lambs

Table 1. - MATERIAL

Genotyp	Experiment I		Experiment II	
	Extensive		Extensive	Intensive
	Male	Female	Male	Male
Black Heads (SK)	5	14	20	20
SK x Merinolongwool (ML)	10	10		
Moorschnucken (MS)	12	8		
∅ age of slaughtering (d)	185		305	

Methods:
experiment I: lambs managed on extensive pasture
experiment II: lambs managed on extensive pasture and fattening for 10 weeks before slaughtering with hay: concentrates in relation 37 : 63 of energy (intensive).

Methods of experiments:
- planimetre for investigation of the surface of muscle longissimus dorsi
- chemical analysis for investigation of intramuscular fat and protein
- Minolta for investigation of the colour of muscles
- capillary gas chromatography for investigation of fatty acids.

Results

Results of experiment I
The slaughtering performance was highest in SK×ML and was by low in MS.

Table 2. - SLAUGHTERING PERFORMANCE - EXTENSIVE PASTURE (EXPERIMENT I)

	Slaughter weight (kg)	Average daily gain (g)	Dressing out (%)
	LSQ	LSQ	LSQ
SK	33	180	40
SKxML	35.5	187	41
MS	30	113	38

The intervention in slaughter quality is shown in Table 3.

Table 3. - SLAUGHTER QUALITY BETWEEN BREEDS - EXTENSIVE PASTURE (EXPERIMENT I)

Breed:	SK	SKxML	MS
	LSQ	LSQ	LSQ
Longissimus muscle area, cm^2	11.1	10.0	9.6
Intramuscular fat (%)	2.6	2.5	2.8
Colour of muscle (L)	33.3	33.5	31.0
Hypress (%)	33.1^b	39.4^a	33.3^b
Tenderness (kp/cm^2)	9.5^b	14.4^a	-

The fatty acid composition is exellent of sheepmeet from extensive pasture (Table 4) special of linolenic acid (1, 9... 1, 7) and of omega 6: omega 3 (1,7 ... 1,9).

Table 4. - FATTY ACIDS IN THE M.L.D OF DIFFERENT BREED - EXTENSIVE PASTURE

Breed:	SK	SKxML	MS
	LSQ	LSQ	LSQ
All saturated fat, %	51.3	49.4	48.5
Linolenic acid C18:2, %	4.8^a	4.8^a	3.7^b
Linolenic acid C18:3, %	1.9	1.8	1.7
omega6:omega3	1.7	1.9^a	1.7^b
PSQ	0.2	0.2^a	0.15^b

Results of experiment II

The slaughter performance is shown in Table 5. The performance was higher in SK-intensive as in SK-extensive.

Table 5. - SLAUGHERING PERFORMANCE - BLACK HEADS (EXPERIMENT II)

	Slaughter weight	Carcass weight	Dressing out
	kg	kg	kg
Extensiv	38	15	40
Intensiv	42	21	47

The slaughter quality of meat of SK - intensive and SK - extensive is shown in Table 6.

Table 6. - SLAUGHTER QUALITY TROUGH EXTENSIVE AND INTENSIVE FEEDING (EXPERIMENT II)

Feeding:	Extensive	Intensive
Breed:	SK (male)	
Longissimus muscle area, cm^2	12.6^b	14.7^a
Colour of muscle (L)	36.7	36.3
Hypress, %	28.5^b	32.9^a
Tenderness (kp/cm^2)	24.0^a	16.0^b

The area of m.l.d. was smaller in Sk - extensive (13 cm^2) and higher in Sk-intensive (15 cm^2)

The fatty acid composition are differing regarding the feeding (Table 7).

Table 7. - FATTY ACID IN THE M.L.D. OF DIFFERENT FEEDING (EXPERIMENT II)

Feeding:	Extensive	Intensive
Breed:	SK (male)	
All saturated fat, %	41,2[b]	43.5[a]
Linoleic acid C18:2, %	5.7[b]	8.1[a]
Linolenic acid C18:3, %	2.0[a]	1.2[b]
omega 6 : omega 3	1.7[b]	3.3[a]

The linolenic acid composition is higher in SK-extensive (2.0 : 1.2); omega 6 : omega 3 is with 1.7 exellent (optimal < 2,5). SK-intensive have higher omega 6 : omega 3 (3.3 and linol acid (8,1).

UČINKOVITOST EKSTENZIVNOG DRŽANJA OVACA NA EKSTENZIVNOJ PAŠI NA REZULTATE TOVA I KLANJA TE KAKVOĆU MESA

Sažetak

Janjad držana na ekstenzivnoj paši nije pokazala zadovoljavajući volumen mišića uz dnevni prirast od 114g (MS) i 187 g (SK x ML). Područje m.l.d. od 9.6 (MS) do 11.2 (SK) i 12.6 cm^2 (SK pokus II ekstenzivan) bilo je nisko u usporedbi sa željenom razinom od 15 cm^2. Tov nakon toga je probitačan za rast mišića (14.7 cm^2 - pokus II intenzivan).

MS i životinje ženke pokazale su najviši sadržaj međumišićne masnoće ml.l.d. (2.77 i 2.95%). Boja mesa MS bila je tamnija (31) nego SKxML (33.5). U toj dobi nisu primijećene razlike u spolovima kao ni u držanju.

Meso janjadi držane na ekstenzivnoj paši odlikuje se visokim sadržajem linolenske kiseline, a niskim sadržajem linoleinske kiseline. Odnos omege 6 : omege 3 sa 1.72 i 1.92 vrlo je dobar s hranidbenog gledišta (najbolje između 1 i 2). Postoje razlike između pasmina i spolova s obzirom na linolnu i linolensku kiselinu, PUFA, omega 6 i omega 3.

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