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FATTENING PERFORMANCE AND CARCASS TRAITS OF A LOCAL ROMANIAN BREED CROSSED WITH MEAT RAMS

Ghită, E., Lazăr, C., Pelmus, R., Dragomir, C., Ropota, M., Mihalcea T., Gras, M.

National Research-Development Institute for Animal Biology and Nutrition
Calea Bucuresti nr.1, 077015 Balotesti, Ilfov, Romania, e-mail: elena.ghita@ibna.ro

Introduction

As the sheep population is decreasing continuously and as the lamb meat is facing increasing competition from the other sources of meat, it is very important to increase the efficiency of meat production. Crossing is one efficient way to improve meat production. Studies were conducted on crossing and most of them concluded that crossing may increase the number of lambs and their weaning weight.

Very many meat sheep breeds were developed worldwide, the top ones being the English meat sheep breeds. UK is the country with the largest number of meat sheep in Europe. Breeds such as Suffolk are used to increase the meat production of other sheep breeds. This breed is widely spread in UK and in many other countries worldwide, it is used for meat production, particularly for its high rate of growth and for the exceptional quality of the meat.

OBJECTIVE

The purpose of the paper was to study the fattening performance and carcass traits in F1 hybrid lambs produced by the cross of local Teleorman Black Head (TBH) ewes with British Suffolk meat rams comparative with local TBH lambs.

Material and Methods

The researches were conducted in the experimental farm of INCDBNA and they started after lamb weaning. Two experimental groups were formed, with 20 lambs each, the first one with lambs of the local Teleorman Black Head breed, and the second with F1 hybrids (Teleorman Black Head x Suffolk). The lambs were fattened to 40 kg bodyweight, for 97 days. The two groups were reared within the same conditions of feeding and maintenance. At the age of 180 they had reached an average weight of 42.95±1.053 kg for the hybrid lambs and 39.99±1.131 kg for the local breed lambs. At the end of the experiment 8 lambs from each group were slaughtered in order to determine the slaughter and commercial outputs, the proportion of the different carcass parts, the proportion of butcher parts, the meat to bone ratio (for parts/for entire carcass), specific measurements of the carcass, the chemical composition of the meat including the fatty acids and cholesterol level, separately for each group. The carcasses were cut according to the French method which uses the following parts: leg, loin, rack, shoulder, flank and neck.

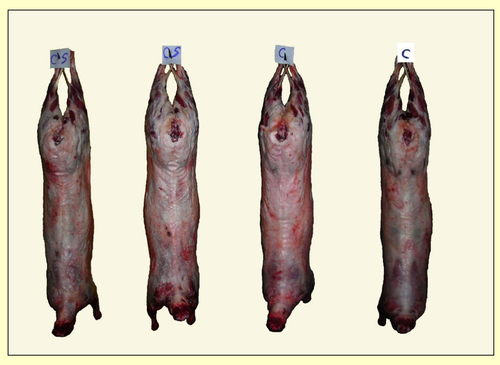
Hybrids (TBH x Suffolk) fattening lambs

Teleorman Black Head fattening lambs

Results

Hybrids (1, 2) and TBH (3, 4) lambs carcass

Hybrids (1, 2) and TBH (3, 4) lambs carcass



Synthetic data on lambs fattening

Items	Teleorman Black Head (TBH)		Hybrids F1 (TBH x Suffolk)	
	$\bar{X} \pm S_{\bar{x}}$	V%	$\bar{X} \pm S_{\bar{x}}$	V%
Live weight at the beginning of the experiment (kg)	16.98±0.798ns	14.86	18.57±0.992 ns	16.89
Age at the beginning of the experiment (days)	82.00±1.776	5.50	83.00±2.413	7.40
Live weight at the end of the experiment (kg)	39.99±1.131*	8.94	42.95±1.053*	7.75
Age at the end of the experiment (days)	179.0±1.776	2.82	180.0±2.413	3.81
Weight gain during the period (kg)	23.00±1.140	15.67	24.37±0.710	9.21
Average daily gain (kg)	0.237±0.011ns	15.67	0.251±0.007ns	9.26
Duration of the fattening period (days)	97			

ns – p>0.05; * p<0.05

Live weight, slaughtering yield and proportion of the different carcass parts

Items		Teleorman Black Head (TBH)		Hybrids F1 (TBH x Suffolk)	
		$\bar{X} \pm S_{\bar{x}}$	V%	$\bar{X} \pm S_{\bar{x}}$	V%
Live weight. kg		37.60±0.55	2.96	39.8±0.06	0.31
Carcass weight. kg		17.80±0.38	4.31	18.95±0.32	3.77
Slaughtering yield %		47.36±0.34ns	1.43	47.58±0.88ns	3.69
Commercial yield %		52.06±0.14ns	0.53	52.22±0.97ns	3.69
Head	kg	1.50±0.159	21.18	1.55±0.06	9.09
	%	4.00±0.43	21.65	3.89±0.16	9.287
Organs	kg	1.76±0.06	6.99	1.85±0.09	10.78
	%	4.69±0.21	9.02	4.63±0.23	11.04
Full digestive tract	kg	7.66±0.42	11.01	8.09±0.43	11.96
	%	20.33±0.85	8.34	20.30±1.06	11.65
Hide	kg	4.64±0.13	5.45	5.24±0.29	12.59
	%	12.36±0.50	2.96	13.17±0.76	12.84
Legs	kg	0.80±0.03	7.38	0.85±0.03	8.41
	%	2.14±0.07	6.21	2.13±0.08	8.69
Losses	kg	2.52±0.22	17.43	2.65±0.24	20.26
	%	6.70±0.62	18.57	6.66±0.61	20.50

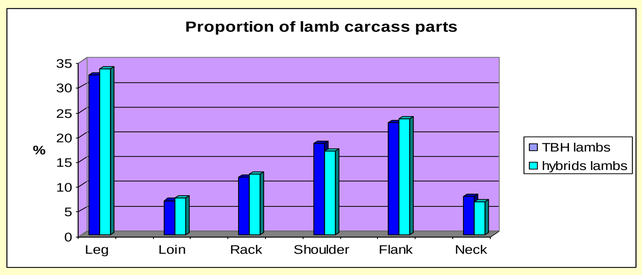
ns – p>0.05

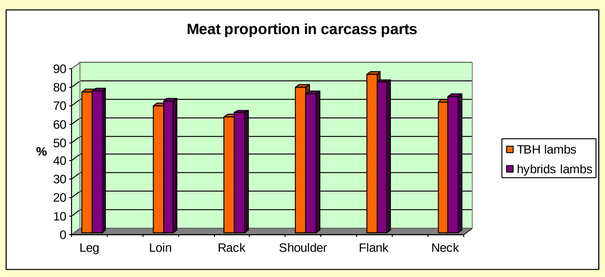
Specific carcass measurements (cm)

Items	Teleorman Black Head (TBH)		Hybrids F1 (TBH x Suffolk)	
	$\bar{X} \pm S_{\bar{x}}$	V%	$\bar{X} \pm S_{\bar{x}}$	V%
Large trunk length	76.00±1.73	4.56	74.00±2.38	6.43
Small trunk length	65.75±0.85	2.59	62.50±1.653	5.92
Inner length of the leg	27.25±0.75	5.50	25.25±0.76	6.76
Outer length of the leg	51.25±1.11	4.33	49.25±1.18	5.34
Carcass width at the leg	22.25±2.29	20.55	24.50±0.58	5.27
Thorax width	22.00±1.35	12.31	23.25±0.99	9.54
Breast width	18.25±0.25	2.74	20.25±0.22	2.47
Thorax depth	26.00±0.41	3.14	27.25±0.43	3.51
Thorax perimeter	74.5±2.53	6.80	73.75±0.56	1.71
Thigh perimeter	55.00±3.54	12.86	56.75±1.80	7.10

Meat to bone ratio

Items	Teleorman Black Head (TBH)		Hybrids F1 (TBH x Suffolk)	
	$\bar{X} \pm S_{\bar{x}}$	V%	$\bar{X} \pm S_{\bar{x}}$	V%
Meat to bone ratio	3.12±0.068	4.368	3.31±0.271	18.065





Conclusions

- The fattening period lasted 97 days, when the local TBH lambs started from 17 kg and reached 40 kg, with a total gain of 23 kg; the hybrid lambs started from 18.5 kg and reached 42.95 kg, with a gain of 24.37 kg;
- The average daily weight gain was 6% higher in the hybrid lambs (251 g) than in TBH lambs (237 g)
- The slaughter yield and the commercial yield were higher in the hybrid lambs; the meat to bone ration also was higher in the hybrid lambs;
- The specific carcass measurements showed that the carcass of the hybrid lambs had higher width, breadth and higher leg perimeter than the local lambs, which had higher length, however, than the hybrid lambs.
- No difference in meat quality were determined between the two groups;
- The Suffolk rams transmitted a higher rate of speed to the hybrid lambs, a body conformation closer to that of the meat breeds, with a better dressing, particularly in the areas of high quality meat (leg, rack), a higher slaughter yield and a better meat to bone ratio than the local lambs.

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