STUDY REGARDING THE PRODUCTIVE PERFORMANCES OF THE HALFS BLOOD BETWEEN MERINO PALAS BREED SHEEP AND ILE DE FRANCE BREED SHEEP

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Abstract

The aim of this research was to demonstrate the possibility for crossbreed between the Romanian sheep Merino Palas and the sheep breeds specialized for the lambs with high meat quality productions. In this way have been analyzed two different sheeps batches as follows: the basic batch consisting of 50 animals Merino Palas pure breed sheep and an experimental sheep batch consisting of 50 sheep Merino Palace mated with rams Ile de France sheep breed. For the body weight determinations it was calculated average weight gain of lambs at birth, at one month, at two month, at three month and at the delivery age (5 month about). After the weaning, the lambs were maintains in the unified conditions, and such the specific consumption index is not determined for each animal lot. The slaughter's results were calculated on the 5 lambs for each animal batch. Based on experimental results the following conclusions can be drawn:

- the body weight of the crossbreed lambs was better comparative with the basic sheep batch.

- the slaughter's results of crossbred lambs were better comparative with the lambs of basic animal batch.

- the crossbred lambs achieved a high qualitative meat carcass, with a better commercial range, comparative with lambs of a basic batch.

Key words: sheep breed, lambs, meat carcass

INTRODUCTION

Industrial crossings is a quick way to enhance and improve meat production, biological and economic effects of this cross is used whereby the phenomenon of heterosis, half-breeds showing a higher growth rate, better use of feed through Specific consumption per kg gain less, compared with the products breeds paternal clues are sometimes even superior to those of ameliorative race [1, 2].

The European Community does not occur as long as sheep meat is consumed, with a permanent deficit that is covered by imports from countries like New Zealand and Australia.

Romania sheep breeders, can deliver meat on the European market and can cover a part of the current deficit, but is required to improve the quality of sheep meat produced in our country.

The purpose of this paper is to conduct comparative research on improving production of meat, correcting housing defects, increase yield at slaughter etc., from simple industrial crossing between sheep breed and breed meat Merinos de Palas Ill de France.

MATERIAL AND METHOD

The researches were made in a commercial company from Vaslui district, on two lots of Merino of Palas breed. The witness lot, composed of 50 Merino of Palas sheep crossed by rams from Merino of Palas breed and the experimental lot, composed of 50 Merino of Palas females crossed by rams from Ile of France breed.

The researches were made on all lambs of both lots, except determining the yield at slaughter where only five lambs were used from each of lots, taken randomized.

Along the whole experiment was intended to create conditions of comfort to animals, was ensured an useful places of lodging of 1,5 sqm/ head for adult sheep into the shelters and

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of 2,55 sqm/ head into the paddock and a feeding front of 0,5 sqm/ head.

To ensure the vital functions in accordance with technologies of growth was ensured, in rations of the sheep 3 - 2,5 kilo dry substance, 1,5 - 1,6 milk nutritive units (UNL), 70 - 75 (PDIN/ PDIE) intestinal digestible protein, 4 - 5 g Ca, 2,5- 3 g P, for 100 kilo live weight, these quantities were supplemented with 15 - 20% in prepared period for breeding and with another 25 - 45% in gestation period and in the first 3 months of lactation.

In feeding of animals into the stalls were given vegetable hay of good quality, in quantity of 0,7 - 1,2 kilo/ head/day; juicy forages (fodder beet and silo corn) 3 - 4 kilo/head/day; mix of concentrated forages composed of 25- 30% barley, 50 - 60% corn, 8 - 12% grist of sun flower or soy, 1% salts, 2% fodder chalk.

Were administrated to the sheep placed in the first part of lactation, forages which are going to stimulate the lactated secretion, juicy forages, silo corn, fodder beet or green meal [3].

On the period when the sheep are staying into the stalls these are equipped with paddocks.

In grazing period the sheep stayed in summer camps where were feeded with green meal from the pasture, at discretion, the water was ensured in troughs, the required quantity of water is 3- 5 liters / day/ head. The summer camp was situated in a shady place, an natural advantage.

In the first two month of life, the feed of the lambs consisted in the first time on maternal milk.

Supplemental feeding of the lambs began very early. Starting with 8 - 10 days, for lambs were ensured in special enclosures, at discretion, hay of good quality, hay with vitamins and concentrated forage, consists of corn, barley, peas and groats.

Supplemental feeding continued until the lambs weaning, after that was made the lams fattening, a period of 150 days, in a half intensive system.

In grazing period, in adapting phase the lambs were feeding with a fodder ration which had 1,046 kilo dry substance (SU), 0,924 meat nutritive units (UNC), 113,7 g and 105,2 g substance (SU), 1,33 meat nutritive units (UNC), 148 g and 138 g intestinal digestible protein (PDIN and PDIE), in growing and fattening phase.

On the period when the lambs are staying into the stalls, thei were feeded with a fodder ration which had 1,30 kilo dry substance (SU), 0,746 meat nutritive units (UNC), 93,4 and 101,3 g intestinal digestible protein (PDIN and PDIE), in adapting phase and 1,62 kilo dry substance (SU), 1,068 meat nutritive units (UNC), 132,1 g and 138,4 g intestinal digestible protein (PDIN and PDIE), in finishing phase.

The pasture where lambs were fattening, was sowed, its carpet consisted of a mixture of 65- 70% grasses (Dactylis glomerata, Festuca pratensis, Lolium perene) and 30- 35% perennial vegetable (Medicago sativa, Trifolium repens).

The lambs fatting was structurated in two stages:

Grazing, with an adapting period of 15 days and one period of growing and fattening of 90 days;

Time when the lambs are staying into the stalls, with an adapting period of 10 days and a fattening period of 35 days.

The transition from fattening on the pasture to period when the lambs are staying into the stalls was made through an adapting phase of 10 days, by increasing the daily quantities for concentrated and volume forages.

During the period when the lambs are staying into the stalls, thei was feeded at discretion, with an unique mixture in which the forages proportion was 30% fibrous and 70% concentrated. The water and the salts balls was ensured at discretion, both on the pasture and period when the lambs are staying into the stalls. Every month the weighing was made until the fattening period ending.

RESULTS AND DISCUSSIONS

After the ending calvings there were calculated the reproduction indicators for both experimental lots, indicators presented in table 1.

Table 1 The main reproduction indicators, achieved

The lot	Mounted sheep	Calved sheep	Obtained products	Fecundity	Prolificity
Experimental	50	47	72	94,00	144
Witness	50	48	63	96,00	126
Total	100	95	135	95,00	135

From data presented in table nr. 1, is observed that experimental lot (Merino of Palas females crossed with Ile of France males) had the fecundity index lower with two percents than witness lot namely, 94% than 96%, but the prolificity is superior at the experimental lot, 144% than only 126% at the witness lot.

From presented data in table number 2 is ascertained that the lambs obtained from experimental lot, both males and females, had superior weight gains than those of the lambs obtained from witness lot both in the first and in the second month of life.

So, the lambs from experimental lot realized an average gain of 344,7 g/day in the first lactation month and of 282,1 g/day in the second lactation month while lambs from the witness lot realized in the first lactation month a medium gain of only 268,5 g/ day and in the second lactation month realized an average gain of only 212,6 g/ day.

For the whole lactation period, the first 60 days of life, lambs from experimental lot realized an average gain of only 240,6 g/ day.

Table 2 The daily medium gain of the lambs in lactation (breastfeeding) period

The lot	n	The daily medium gain (g/ day)					
		0- 30 days		30- 60 days		0- 60 days	
		$\bar{X} \pm s_{\bar{X}}$	V %	$\bar{X} \pm s_{\bar{X}}$	V %	$\bar{X} \pm s_{\bar{X}}$	V %
Experimental ♂	40	356,2±7	12,32	300,8±6	14,42	328,3±6	15,56
Experimental ♀	32	332,6±6	10,64	264,3±6	11,76	298,3±6	13,48
Experimental lot total	72	344,4±7	14,82	282,1±6	16,26	320,6±7	16,62
Witness group ♂	30	292,8±7	9,52	228,6±7	13,84	259,6±6	12,26
Witness group ♀	33	244,2±6	11,28	196,4±6	14,16	220,1±5	13,36
Witness lot total	63	268,5±7	12,66	212,6±6	15,64	240,6±7	13,38

Table 3 The body weight evolution until weaning

The lot	n	The birth weight		The weight at 30 days		The weight at 60 days	
		$\bar{X} \pm s_{\bar{X}}$	CV %	$\bar{X} \pm s_{\bar{X}}$	CV %	$\bar{X} \pm s_{\bar{X}}$	CV %
Experimental ♂	40	4,42±0,08	11,82	15,10±0,12	13,64	24,12±0,22	14,24
Experimental ♀	32	4,30±0,07	10,24	14,27±0,14	12,22	22,20±0,19	15,66
TOTAL Experimental	72	4,26±0,07	12,66	14,59±0,13	14,36	23,05±0,21	14,18
Witness ♂	30	4,28±0,09	14,46	13,06±0,10	15,84	19,86±0,24	16,42
Witness ♀	33	3,84±0,08	12,36	11,16±0,11	14,53	17,05±0,20	15,67
TOTAL	63	4,06±0,08	13,08	12,12±0,10	14,36	18,50±0,22	16,72

In the table number 3 is presented the body weight at birth, at age of one month, and at the moment of weaning, at age of two months.Is ascertained that both males and females which are from experimental lot realized weights bodies higher both at birth and at age of one month and two months. The lambs from experimental lot, realized at birth an average body weight of 4,26 kilo while the lambs from witness lot had at birth a body weight of 4,06 kilo.In the moment of weaning the lambs from experimental lot realized an average body weight of 23,05 kilo, while the lambs from witness lot realized an average body weight of only 18,50 kilo.

Table 4 The growth dynamics in half intensive fattening period (150 days)

The lot	n	The weight at the beginning of the fattening		The weight at the end of the fattening		The average daily gain (g/ day)	
		$\bar{X} \pm s_{\bar{X}}$	CV %	$\bar{X} \pm s_{\bar{X}}$	CV %	$\bar{X} \pm s_{\bar{X}}$	CV %
Experimental ♂	25	24,12±0,22	14,24	40,37±0,38	15,38	180,6±5	12,86
Experimental ♀	24	22,20±0,19	15,66	37,33±0,41	17,82	168,2±4	13,34
TOTAL Experimental	49	23,05±0,21	14,18	38,74±0,40	15,26	174,4±5	12,56
Witness group ♂	29	19,86±0,24	16,42	31,22±0,33	18,18	126,2±4	14,42
Witness group ♀	27	17,05±0,20	15,67	27,18±0,42	17,22	112,4±4	13,86
TOTAL	56	18,50±0,22	16,72	29,24±0,36	19,64	119,4±4	14,08

Table number 4 shows the body wheigt for two both experimental lots, registered at the ending of fattening period and the average daily gain realized in this period. The lambs from experimental lot realized at the ending of fattening period an average gain of 174,4 g/day, while the lambs from witness lot realized an average gain of only 119,4 g/day.

At the ending of fattening period the lambs from experimental lot achieved an average body weight of 38,74 kilo, while the lambs from witness lot realized an average body weight of only 29,24 kilo.

Table 5 The yield at slaughtering

Specification	Unit of measure	The lot	
		Experimental	Witness
Liveweight	g	41,24 ± 5,82	32,86 ± 6,36
The weight of cooled housing	g	20,49 ± 4,16	14,66 ±7,22
The yield at slaugthering	%	49,70 ± 1,04	44,60 ± 0,01

The yield at slaugthering obtained after slaugthering five lambsfrom each lot, was of 49,7% at the lambs from experimental lot and of only 44,6% at the lambs from witness lot.

CONCLUSIONS

1. The experimental lot (females of Merino of Palas breed crossed with males of Ile of France breed) realized a prolificity index of 144% while females from witness lot (females from Merino of Palas breed crossed with males from Merino of Palas breed) realized a prolificity index of only 126%.

2. The lambs, from the experimental lot , both males and females, realized higher weight gains than the lambs from witness lot both in lactation period and in fattening period.

3. The average weight at the ending of fattening period was higher with 9,5 kilo at the lambs from experimental lot (38,74 kilo), than at the lambs from witness lot (29,24 kilo).

4. The yield at slaugthering at the lambs from experimental lot , is higher with 5,1% than The yield at slaugthering at the lambs from witness lot, meaning 49,7% than only 44,6% at the witness lot.

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