RESEARCH CONCERNING THE BODY WEIGHT OF HYBRID CHAROLLAIS X MERINOS DE TRANSILVANIA LAMBS AND YOUNG RAMS FROM SIMPLE LAMBING

STUDIU PRIVIND MASA CORPORALA A MIELUTELOR SI BERBECUTILOR CHAROLLAIS X MERINOS DE TRANSILVANIA PROVENITI DIN FATARI SIMPLE

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***Abstract**: The type of lambing (simple or double) is under a satisfactory genetic control (prolificacy h^2 = 0.2-0.3), lambs from double lambing are 16-30% lighter and achieve a lower growth until weaning, when the percentage difference between lambs from simple lambing and lambs from double lambing increases. Lamb survival after lambing is largely dependent on the amount of colostrums consumed in the first 12 h that ensure immunity for a period of 10-12 days.*

***Key words**: body weight, young ewes, young rams, Charollais, Merinos de Transilvania, simple lambing*

INTRODUCTION

In Romania, sheep have been a particularly important national asset. There has been a shift from breeding sheep for wool (until 1990) to mutton and/or milk production, a trend that is expected to increase in the years to come.

With its 8 to 9 million sheep, Romania is among European countries with the largest numbers of sheep; compared to other European countries, Romania has the highest exceeding amount of lamb.

Through a more performing management – improving nutrition, reproduction, maintenance, and genetic fund – Romanian sheep breeders can really increase mutton production.

The price of young sheep for export depends mainly on carcass quality, live body weight and particularly on sale period.

MATERIAL AND METHOD

The goal of the present paper is to present the evolution of the body weight of the hybrid Charollais x Merinos de Transilvania lambs lambed in May and fed until weaning (75 days) on sheep milk and on moderate amounts of concentrates (100 g/day). To do so, we assessed the dynamics of body weight of suckling hybrid Charollais x Merinos de Transilvania lambs from simple lambing.

RESULTS AND DISCUSSION

They assessed the body weight of Charollais lambs from simple and double lambing at lambing and then at 10, 20, 30, 40, 50, 60, and 70 days.

The Charollais sheep breed is considered the prototype of modern mutton sheep breeds. In the last 10 days, this sheep breed was the most frequently exported from France to European countries, particularly to the United Kingdom of Great Britain, where most mutton breeds have been developed.

In the present study, we have assessed the body weight of the hybrid Charollais x Merinos de Transilvania lambs.

Table 1 presents the body weight of hybrid Charollais x Merinos de Transilvania young ewes from **simple lambing** at lambing, at 28 days, and at 75 days.

Table 1. Body weight of hybrid Charollais x Merinos de Transilvania young ewes from simple lambing

Nr.	Date of lambing	Sex	Body weight at lambing	Body weight at 28 days	Body weight at
			kg	kg	kg
1	May 6, 2010	F	2.57	7.90	23.40
2	May 8, 2010	F	3.10	8.30	24.60
3	May 8, 2010	F	2.70	8.10	23.70
4	May 8, 2010	F	3.50	8.20	25.10
5	May 8, 2010	F	3.15	8.10	24.20

6	May 8, 2010	F	3.20	7.80	23.60
7	May 8, 2010	F	4.00	9.10	25.90
8	May 8, 2010	F	3.80	8.70	24.80
9	May 8, 2010	F	2.60	8.10	23.70
10	May 8, 2010	F	2.95	8.20	24.10
X			3.16	8.25	24.31
Sx			0.15	0.12	0.25
s			0.49	0.38	0.79
Cv			15.49	4.65	3.25

Analysing the values obtained, we can see that Charollais x Merinos de Transilvania young ewes from simple lambing achieve a body weight at lambing between 2.57 and 4 kg, with a mean of 3.16 kg.

Comparing this body weight with that of the Merinos de Transilvania breed (3.5 kg), we see that hybrid young ewes from simple lambing achieves a smaller body weight.

We then assessed the body weight of hybrid young ewes according to the French system, i.e. between 28 and 75 days.

At 28 days, these hybrid young ewes achieve a body weight between 7.8 and 9.1 kg, with a mean of 8.25 kg. Analysing the body weight of these young ewes at weaning (75 days), we see that hybrid Charollais x Merinos de Transilvania young ewes reach optimal export body weights, i.e. between 23.4 and 25.9 kg.

We need to mention that optimal body weight of the lambs exported was between 24 and 26 kg, for which we obtained 3.4-3.5 Euros/kg. At the age of 75 days, the body weight of the hybrid young ewes is 24-31 kg. Analysing the variability of the body weight of hybrid young ewes from simple lambing, we can see that at lambing the variation coefficient reaches 15.49%, which points to a medium variability.

At 28 and 75 days, the variability of the body weight of the young ewes decreases very much, ranging between 3.25 and 4.65%, i.e. a very good uniformity.

Reducing variability of body weight can be explained through compensatory increase specific to the mutton sheep and achieved by the young ewes with smaller body weight but with higher increase energy.

Table 2 presents the body weight of hybrid Charollais x Merinos de Transilvania young rams from **simple lambing** at lambing, at 28 days, and at 75 days.

Table 2. Body weight of hybrid Charollais x Merinos de Transilvania young rams from simple lambing

Nr.	Date of lambing	Sex	Body weight at lambing	Body weight at 28 days	Body weight at 75 days (at
			kg	kg	kg
1	May 8, 2010	M	3.20	7.80	25.60
2	May 8, 2010	M	3.60	8.10	25.40
3	May 8, 2010	M	3.15	8.00	24.70
4	May 8, 2010	M	3.80	8.10	26.00
5	May 8, 2010	M	4.10	8.50	26.00
6	May 8, 2010	M	3.75	8.20	27.10
7	May 8, 2010	M	4.00	8.60	27.00
8	May 8, 2010	M	3.90	8.30	25.70
9	May 8, 2010	M	3.70	8.00	27.00
10	May 8, 2010	M	3.90	8.15	27.00
X			3.71	8.18	26.15
Sx			0.10	0.08	0.26
s			0.32	0.24	0.84
Cv			8.54	2.93	3.20

The data in this table show that the body weight of the male hybrid lambs from simple lambing ranges between 3.15 and 4.1 kg, with a mean of 7 kg. These data show that at lambing, the make hybrid lambs have a **body weight** 17.4% higher than that of the young hybrid ewes.

At 28 days, male lambs reach a body weight between 7.5 and 8.5 kg, with a mean of 8.15 kg, i.e. very close to that of the young ewes.

At 75 days of age, at weaning, the body weight ranged between 24.7 and 27.1 kg, with a mean of 26.15 kg, 1.8 kg higher than that of the young ewes.

The variability of body weight at lambing in hybrid males is smaller (CV = 8.54%) and decreases very much at 28 days (CV = 2.93%) and keeps at a low level at 75 days too (CV = 3.20%).

CONCLUSIONS

As a result of assessing body weight from lambing to weaning (75 days) in the hybrid Charollais x Merinos de Transilvania lambs from simple and double lambing, fed on sheep milk and on moderate amounts of concentrates (100 g/day/lamb) we can draw the following conclusions:

- body weight of male lambs from simple lambing (3.71 kg) is significantly higher than that of young ewes (3.16 kg);
- body weight at 28 days does not differ significantly ($p > 0.05$) (8.18 kg in males, 8.25 kg in females;
- body weight at weaning (75 days) in male lambs from simple lambing (26.15 kg) is significantly ($p < 0.01$) higher, with 1.84 kg compared to young ewes (24.31 kg).

This study allows us to draw the conclusion that by grazing and feeding on sheep milk and on moderate amounts of concentrates hybrid suckling Charollais x Merinos de Transilvania lambs (100 g/day), male lambs from simple lambing achieve at weaning (75 days) the highest body weight (25.16 kg) followed by female lambs (24.31 kg), by twin male lambs (23.50 kg) and by female twin lambs (21.89 kg). These body weights are within body weight limits (20-26 kg) for which they pay the best prices at export (3.5-3.7 Euro/kg).

BIBLIOGRAPHY

1. **BENOIT M., LAIGNEL G., LIENARD G., DEDIEU M., CHABOSSEAU J. M.**, Elements de reussite economique des elevages ovins extensifs du Montmarillonais, INRA Prod. Anim., 10 (5) , 1997
2. **BIBE B., BOUIX J., LEFEVRE C., EYCHENNE F**., Variabilite genetique entre et intra-races, de la croissance et des qualites de carcasses d'agneaux. 11eme journee de la recherche ovine et caprine, INRA, 1986
3. **CULEA C.,** Zootehnie specială şi ameliorare, Editura „Fundaţia România de mâine", Bucureşti 1998

4. **PĂDEANU I**., Tehnologia creşterii ovinelor şi caprinelor, Editura Mirton, Timişoara 2001
5. **PETROMAN I., ŞI COLAB**. Managementul sistemelor de creştere şi exploatare a animalelor, Editura Eurostampa, Timişoara, 2007
6. **PETROMAN I., CULEA C.,** Sisteme de creştere şi exploatare a animalelor, Editura Mirton 1998
7. *** - www. charollais.net
8. *** - www.sheep.com