

## **ELABORATING THE TECHNOLOGY OF FEEDING THE MILKING SHEEP DURING THE PERIOD OF COUPLING PREPARATION AND COUPLING**

### **ELABORAREA TEHNOLOGIEI DE HRĂNIRE A OILOR DE LAPTE ÎN PERIOADA DE PREGĂTIRE PENTRU MONTĂ ȘI MONTĂ**

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*The studies made on sheep specialized on milk production watched to establish fodder ratios and the technology of foddering the sheep in the second milking period and preparation for coupling. The witness lot was fed with green mass by grazing, at the 2nd lot it was used the pasture + 200 g concentrated fodders/animal/day, and at the 3rd lot, the pasture + 400 g fodders/animal/day. The consumption of dry substance/animal/day was similar at the 1st and 2nd lots, that of 1.57-1.51 kg, and at the 3rd lot of 1.68 kg, bigger with 7-11% beside the other two lots. The intensity and synchronization of the heat periods were with 32-61% better in the case of the sheep that were supplementary fed. The supplementation of grazing with concentrated fodders had a positive influence upon the body weight of the sheep, at the 3rd lot the body weight of the sheep in the beginning of coupling being superior with 11.40% comparatively to the weight at lambs' weaning. The average milk production per lactation was of 138.9-153.8 liters, being bigger with 10.7% at the 2<sup>nd</sup> and 3<sup>rd</sup> lots, comparatively to the 1<sup>st</sup> lot. The chemical composition of milk had a content of dry substance of 18.95-19.05%, 6.31-6.41% proteins and 6.99-7.24% fats.*

**Key words:** *fodder ratios, sheep specialized on milk, preparation for coupling, coupling*

#### **Introduction**

Establishing an optimum food level which to assure the support of the milk production, in the same time with the regeneration of the body reserves in order to prepare sheep for coupling, respectively a new production cycle, is a permanent preoccupation in order to make the sheep breeding and exploitation rentable for milk production, during the coupling period and during preparing for coupling is one of the main factors which influence the fecundity and prolificacy so, thus, obtaining superior morph-productive parameters.

## Material and method

The scientific researches and notices were made on sheep from the milk-line of Palas in the frame of ICDCOC Palas-Constanța, three lots being organized, which were homogenous and analog under the aspect of genetic type, age, body weight, the previous milk production, dropping period and weaning the lambs.

The experimental scheme and the characteristics of the lots are presented in Table 1.

**Table 1**  
**The experimental scheme and the characteristics of the lots**

Lot	n	Fodder ratio	Age (years)	Body weight at weaning the lambs (kg)	Milk production in the previous lactation (l)
I	27	Pasture + straw	5.03±0.39	55.15±1.44	177±7.73
II	23	Pasture + 0.2 kg concentrated foddors	4.81±0.42	53.47±1.31	179±7.12
III	24	Pasture + 0.4 kg concentrated foddors	4.88±0.30	52.12±1.66	202±8.11

The used pastures were made of grains species in a proportion of 80-85%. From the grain species, the couch grass is in proportion of over 90%. As concentrated fodder the rattled corn cobs were used.

## Results and discussions

The consumption of grass by grazing was established by the difference between the amount of green mass, existent on introducing the sheep on pasture and the amount of grass which remained when leaving the respective pasture.

The consumption of foddors and nutritive substances of the three lots are shown in Table 2.

**Table 2**  
**The consumption of foddors and nutritive substances**

Specification	UM	1 <sup>st</sup> Lot	2 <sup>nd</sup> Lot	3 <sup>rd</sup> Lot
Green fodder	kg	6.7	6.7	6.7
Wheat straw	kg	0.28	-	-
Corn	kg	-	0.2	0.4
Dry Substance	kg	1.57	1.51	1.68
UNL	-	1.54	1.56	1.78
PDI (PDIN/PDIE)	g	161/158	168/148	181/156
PDI/UNL	g	104.5/102,6	107.7/88.5	101.8/87.6

The average consumption of green fodder /animal/day was of 6.7 kg at all animal lots.

The consumed dry substance was of 1.51-1.57 kg/animal/day at the 1<sup>st</sup> and the 2<sup>nd</sup> lots and of 1.68 kg at the 3<sup>rd</sup> lot, bigger with 7-11% besides the other two lots.

Regarding the consumption of energetic substances (UNL), this presented similar values at the 1<sup>st</sup> and the 2<sup>nd</sup> lots, of 1.54 UNL, respectively 1.56 UNL and of 1.78 UNL at the 3<sup>rd</sup> lot, bigger with 14.0-15.5% comparatively to the 1<sup>st</sup> two lots.

The degree of grouping the heat periods by establishing the proportion of sheep in heats in the first 10 days of finding and the proportion of not-returned sheep after the 1<sup>st</sup> sexual cycle are shown in Table 3.

**Table 3**

**The degree of grouping the heats and the proportion of not-returned sheep after the first sexual cycle**

Lot	n	Sheep in heat period in the first 10 days		Not-returned sheep after the first cycle	
		Animals	%	Animals	%
1 <sup>st</sup>	27	13	48.1	15	55.6
2 <sup>nd</sup>	23	14	60.9	14	60.9
3 <sup>rd</sup>	24	17	70.8	14	58.3

In the first 10 days of noticing the heats, they manifested in a proportion of 48.1% at the 1<sup>st</sup> lot, and at the 2<sup>nd</sup> and the 3<sup>rd</sup> lots, the proportion of sheep which finished the heat period was of 60.9% and respectively 70.8%.

The average body weight of the sheep increased since lambs weaning to the beginning of coupling (Table 4).

**Table 4**

**The body weight of sheep**

Lot	n	Body weight (kg)					
		Lambs weaning		Sheep weaning		Beginning of coupling	
		X ± sx	V%	X ± sx	V%	X ± sx	V%
1 <sup>st</sup>	27	55.15±1.44	14.55	56.90±2.12	16.33	57.53±2.31	15.73
2 <sup>nd</sup>	23	53.47±1.31	13.92	55.31±1.87	17.25	56.71±1.93	16.48
3 <sup>rd</sup>	24	52.12±1.66	15.15	55.38±2.05	15.37	57.22±1.98	16.95

At all the three lots, the body weight of the sheep at the moment of weaning was bigger with 3.1-6.1% and in the end of coupling with 4.3-8.8% comparatively to the body weight at weaning the lambs.

The quantitative production of milk which was obtained in the three lots is shown in Table 5.

**Table 5**

**The quantitative production of milk**

Lot	n	The duration of milking (days)	The medium production per lactation (l)	Duration of suckling (days)	The amount of suckled milk (l)	The duration of milking (days)	The amount of milked milk (l)
1 <sup>st</sup>	27	243.0±8.15	138.9±31.4	63.0±5.18	70.3±6.22	180	68.6±7.17
2 <sup>nd</sup>	23	243.4±7.83	153.8±29.8	63.4±6.11	73.0±5.83	180	80.8±6.83
3 <sup>rd</sup>	24	241.0±9.12	153.1±35.5	61.0±4.93	69.2±7.21	180	83.9±8.14

The average milk production per lactation was of 138.9 liters at the 1<sup>st</sup> lot, this being bigger with 10.7% at the 2<sup>nd</sup> and the 3<sup>rd</sup> lot.

During the suckling period of the lambs, it was obtained a milk production of 73 liters at the 3<sup>rd</sup> lot, 70.3 liters at the 1<sup>st</sup> lot and 69.2 liters at the 3<sup>rd</sup> lot. During milking period (180 days), it was obtained an average milk quantity of 68.6 liters at the 1<sup>st</sup> lot, 80.8 liters at the 2<sup>nd</sup> lot and of 83.9 liters at the 3<sup>rd</sup> lot. So, supplementing the grazing with concentrated fodders had a positive effect, the 2<sup>nd</sup> and the 3<sup>rd</sup> lots producing with 17.8%, respectively with 22.3% more milk than the 1<sup>st</sup> lot.

Doubling the quantity of concentrated fodders from 200 g to 400 g per animal per day assured the increase of milk production with only 3.8%.

The chemical composition of milk is presented in Table 6.

**Table 6**

**The average chemical composition (%) of milk**

Lot	n	Dry Substance	Proteins	Fats	Density
1 <sup>st</sup>	27	18.95±0.135	6.31±0.052	7.12±0.095	1.0363
2 <sup>nd</sup>	23	18.99±0.114	6.41±0.038	6.99±0.103	1.0369
3 <sup>rd</sup>	24	19.05±0.14	6.36±0.044	7.24±0.116	1.0364

The content of milk in dry substance was of  $18.95 \pm 19.05\%$ , the difference between lots being of only 0.53%. The protein substances in milk had values between 6.31-6.41%, the difference being of only 1.58%.

The average content in fat substances was the highest at the 2<sup>nd</sup> lot (6.99%), followed by the 1<sup>st</sup> lot (7.12%) and the 3<sup>rd</sup> lot (7.24%).

The chemical composition of milk reveals the fact that this feature is strongly influenced by the genotype, the experimented foddering systems influencing very little this feature.

### Conclusions

From the made researches regarding the establishing of the technology of feeding the sheep during the period of preparing the coupling and coupling, the following conclusions are noticed:

- The stimulating foddering of sheep in the second part of lactation and during the period of preparing for coupling improves the milk production and the reproduction indicators
- Administrating the supplement of concentrated fodders stimulated the function of reproduction. The intensity and synchronization of heat period were with 32-53% superior at the lots which were supplementary fed.
- The body weight of the sheep in the beginning of coupling was superior to that of lambs weaning with 4.32% at the witness lot and with 6.06-9.78% at the lots which were supplementary foddered.
- The milk production, by supplementary foddering with concentrated fodders (200-400 g), was significantly stimulated, the milk quantity being superior at the 2<sup>nd</sup> and the 3<sup>rd</sup> lots with approximately 10.7% comparatively to the 1<sup>st</sup> lot.

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Constanța*

*Studiile efectuate pe oi specializate pentru producția de lapte au urmărit stabilirea de rații furajere și a tehnologiei de furajare a oilor în perioada a doua de muls și de pregătire pentru montă. Lotul martor a fost hrănit cu masă verde prin pășunat, la lotul II s-a utilizat pășunea + 200 g concentrate/cap/zi, iar la lotul III pășunea + 400 g concentrate/cap/zi. Consumul de substanță uscată/cap/zi a fost asemănător la loturile I și II și anume 1,57-151 kg, iar la lotul III de 1,68 kg, mai mare cu 7-11% față de celelalte două loturi. Intensitatea și sincronizarea căldurilor au fost cu 32-61% mai bune în cazul oilor hrănite suplimentar. Suplimentarea pășunatului cu nutrețuri concentrare a avut o influență pozitivă asupra greutateii corporale a oilor, la lotul III greutatea corporală a oilor la începutul moutei fiind superioară cu 11,40% comparativ cu greutatea avută la înțarcarea mieilor. Producția medie de lapte pe lactație a fost de 138,9-153,8 litri, fiind mai mare la loturile II și III cu 10,7% comparativ cu lotul I. Compoziția chimică a laptelui s-a caracterizat printr-un conținut în substanță uscată de 18,95-19,05%, proteine 6,31-6,41% și 6,99-7,24% grăsimi.*

**Cuvinte cheie:** rații furajere, oi lapte, pregătire monta, monta