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EARLY USAGE OF SHEEP AND GOAT YOUTH FOR THE REPRODUCTION

FOLOSIREA PRECOCE LA REPRODUCTIE A TINERETULUI OVIN ŞI CAPRIN

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Female lambs and kids at the age of 9-10 months were used for early reproduction and it was noticed that the medium values of the weight of the lambs calved by female sheep and the kids calved by female kids are close to the medium values of the weight of the lambs and kids calved by adult sheep and goats. The main index of reproduction accomplished by the youth female situated at he level of the values characteristic to the sheep and goats breeds or populations belonging to Carpatina breed, registering lower values. By the early usage of sheep and goats male youth the following were noticed: Palas Merino male lambs, capable for reproduction 80%; the male lambs from Palas prolific population, capable for reproduction 88,8; out of the he-goats lots of Carpatina breed, at the age of 7-10 months, 83.33% the males manifested a normal sexual behaviour; the males which did not have sexual reflexes at the age of 7-10 months and at the age of 19-22 months they were not capable for reproduction, and the ones that had the seminal material of low quality continued to be so.

Key words*:* sheep, goats, early usage for reproduction;

Introduction

The improvement of the reproduction performances allows the production level increase, without multiplying the number of reproductive from the exploitation, the intensive process of reproduction being performed not only by physiological techniques but also by genetic ones. One of the methods of intensive process of reproduction is the early usage for reproductions of female youth. The little ewe-lambs and little female kids resulted from the early droppings can achieve at the age of 8-10 months, the weight of 75% from the adult one, fact which allows them to be serviced, therefore coming within the economic circuit with about 10-12 months earlier than it is done traditionally, without repercussions over the subsequent productive and reproductive performances. The traditional technology of breeding and exploiting the reproduction sheep and goats provides that the service usage of young female sheep and he-goats should be performed at the age of 16-18 months, or even more than 22 months and most of the times

without previously knowing their capacity of reproduction (sexual reflexes, sperm quality). Controlled reproduction young males are bought, having a special origin, an adequate body development and conformation but which at the controls performed prior to the beginning of the service time prove to be incapable for reproduction for various reasons, like the lack of sexual reflexes, or mostly the low quality of sperm. By settling the reproduction capacity of young sheep and goats males at the age of 7-10 months the origin testing of breeding ground candidates as rams and he-goats is favoured.

Material and Methods

The researches took place at ICDCOC Palas and the coordinating stations.

The objectives were the supervising of: improvement of controlled reproduction young sheep and goats breeding technology; service introduction of young sheep and goats at the age of 7-9 months; increase of reproduction index for sheep and goats; appreciation of sheep and goats young males seminal material quality; obtaining high values of the reproduction index for the serviced or artificially fertilised sheep and goats with sperm coming from males at the age of 7-10 months.

The animals comprised within the projects were individually supervised under the own performances report, registering data regarding: productions' control; reproduction main index; lambs and kids birth weight and the evolution of body weight during the entire growing period; body measuring; animals' classification; milk production control (Nica-Dermengi method).

Reproduction organisation: match making, blood samples collecting for the serologic examinations, settlement of trying rams, artificial fertilisation and supervised natural service performance, calculation of the main reproduction index.

Results and Discussions

The little ewe-lambs and little female kids were early used for reproduction at the age of 9-10 months and its dropping were closely observed as well as those of adult sheep and goats from the witness lots, weighing each lamb or kid individually, registering the lambs and kids birth weight, by sexes and type of dropping, simple and twin (table no. 1). It was noticed the fact that the medium values of the lambs calved by the female lambs early used for service, are close to the weight medium values of the lambs calved by adult sheep, noticing quite smaller values to lambs calved by female sheep, not only at simple dropping but also at twin ones, which are quite outnumbered.

Table 1

Lambs birth weight by sexes and dropping type

Breed/lot	Specification		n	Birth weight
				- - X ± sx V%
Merinos Palas	Simple dropping	males	49	4.54 ±0.22 33.92
		females	36	3.95 ± 0.27 41.01
	Twin dropping	males	18	3.72±0.13 14.82
		females	16	3.22±0.18 22.36
Prime wool breed (Bacău)	Simple dropping	males	38	3.66 ±0.21 35.36
		females	30	3.54±0.22 34.03
	Twin dropping	males	10	3.17±0.26 25.93
		females	8	3.07±0.26 23.95
Tzurcana	Simple dropping	males	49	3.36±0.29 60.41
		females	43	3.12 ±0.29 60.95
	Twin dropping	males	10	3.44 ±0.31 28.49
		females	8	3.11±0.21 19.09
Female lamb of Merios Palas	Simple dropping	males	14	4.14±0.25 22.54
		females	10	3.65±0.22 19.06
	Twin dropping	males	2	3.52±0.11 4.41
		females	-	-
Female lamb Tzurcana-Bacau	Simple dropping	males	10	3.25±0.23 22.37
		females	11	3.21±0.28 30.21
	Twin dropping	males	-	-
		females	-	-
Female lamb Tzurcana -	Simple dropping	males	12	3.15±0.24 26.39
		females	9	3.02±0.23 22.84
	Twin dropping	males	-	-
		females	-	-

The goats dropping were closely supervised, registering the kids birth weight by sexes and type of dropping, simple or twin (table no. 2). Just like the sheep case it was noticed that the medium weight values of the kids calved by the young female early used for service, are almost close to medium weight values of the kids calved by adult goats, noticing quite smaller values to the kids calved by young female, not only at simple dropping, but also at twin ones which are outnumbered.

The calculation of the main index of reproduction achieved by all sheep lots was done after the registering of the dropping and weighing of the lambs and kids (tables no. 3 and 4).

Table 2

Carpatina breed lambs birth weight by sexes a dropping type

Breed/lot	Specification		n	Birth weight
				- - X ± sx V%
Carpatina/ Adult goats	Simple dropping	males	20	3.32 ± 0.14 18.86
		females	18	3.12 ± 0.16 21.75
	Twin dropping	males	10	2.90 ± 0.15 16.35
		females	12	2.75 ± 0.25 31.49
Carpatină / Female kids	Simple dropping	males	10	3.05 ± 0.23 23.84
		females	9	2.93 ± 0.23 23.54
	Twin dropping	males	6	2.85 ± 0.32 27.51
		females	-	-

Table 3

The main index of reproduction achieved by sheep

Sheep breed or population	Serviced females	Born females	Obtained lambs		Fecundity (%)	Prolificacy (%)
			Males	Females		
Merinos Palas	108	102	67	52	94.44	116.66
Prime wool	82	77	48	38	93.90	111.68
Tzurcana	108	101	59	51	93.51	108.91
Female kids - Merios Palas	30	25	16	10	83.33	104.0
Prime wool female lambs	25	21	10	11	84.00	100.0
Tzurcana female lambs	27	21	12	9	77.77	100.0

Table 4

The main index of reproduction achieved by goats

Breed /lot	Serviced females	Born females	Obtained kids		Fecundity (%)	Prolificacy (%)
			Males	Females		
Carpatina/ Adult goats	52	49	30	30	94.23	122.44
Female kids – Carpatina breed	27	22	16	9	84.48	113.63

The main index of reproduction achieved by the early usage to the reproduction of the youth female was situated at all the animals' lots at the level of characteristic values for the sheep and goats breeds or populations belonging to Carpatina breed; for little ewe-lambs and young female kids were obtained close values, but slightly low. The fecundity for the adult sheep belonging to Palas Merino breed was 94.44%, for little ewe-lambs- 83.33%, for the adult sheep belonging to Tigaie breed the fecundity was that of 93.90 % , and for the little ewe-lambs 84%; for the adult sheep belonging to Tzurcana breed the fecundity was that of 93.51% and for the little ewe-lambs 77.77%. For sheep the prolificacy belong to the Palas Merino breed was of 116.66% for the adult sheep and 104.0% for little

ewe-lambs; for the adult sheep of Tigaie breed the prolificacy was that of 111.68% and for the little ewe-lambs 100%; for the adult sheep belonging to Tzurcana breed the prolificacy was that of 108.91% and for little ewe-lambs 100%. For the goats belonging to Carpatina breed the fecundity was 94.23% and for the young female kids 84.48 %; the prolificacy for the adult goats was that of 122.44% and for the young female kids 113.63%.

The reproduction index achieved as well as the calved lambs and kids' weight allows us to draw the conclusion that the early introduction for service to the little ewe-lambs and young female kids can be achieved in farms with favourable economic results.

For the improvement of intensive reproduction technology by the early usage of youth male sheep and goats, the aim was to study the reproduction aptitudes of the males at the age of 7-10 months. Sperm collecting was performed and the seminal material quality was appreciated. For a direct check of the fecundate capacity of seminal material a supervised natural service was performed for the sheep within the first or second gamete cycle (table no. 5 and no. 6).

Out of the 10 male lambs of Palas Merino breed at the age of 7-10 months, 8 male lambs presented normal sexual behaviour (80%) and out of this, only from 7 the seminal material could be collected (87.5%). In view of seminal material quality it might be said that 4 male lambs presented high quality seminal material (high values of density and mobility), but the volume was reduced, varying from 0.5ml and 0.9 ml. At the natural mating were used only the male lambs and a fecundity between 42.85% and 87.50% was obtained, calculated on the basis of gelded (NR%).

It was noticed the fact that out of the males of Palas Merino breed, two of them, which did not present sexual reflexes at the age of 7-10 months and also of 19-22 months were not capable for reproduction and the ones that had poor quality seminal material, continued to keep it that way. Out of the 10 male lambs from the Palas prolific population, at the age of 7-10 months, 9 males presented normal sexual behaviour (90%) and out of these, only from 8 they could collect seminal material (88.8%). It might be said that 7 male lambs presented high quality seminal material (high values of density and mobility), but the volume was reduced, varying between 0.6ml and 1 ml.

At the natural mating were used only the male lambs and fecundity between 62.50% and 87.50%, calculated on the basis of gelded. It was noticed that out of the lot of 10 males the one that did not present sexual reflexes at the age of 7-10 months and 19-22 months was not capable for reproduction, the ones with poor quality of seminal material continued to keep it the same.

Table 5

Estimation of seminal material and the capacity of service to the male lamb belonging to Palas Merino breed and to the Palas prolific population at the age of 7-10 months

Crr No.	Breed/ code	Quantity and quality of sperm			Serviced sheep (n)	Gelded sheep (n)	NR*%
		Volume (ml)	Sperm quality				
			Density	Mobility			
1.	Merinos-Palas (1)	0.5	Rare	0.3 0	5	1	80.0
2.	Merinos-Palas (3)	0.7	Medium	0.55	7	2	71.42
3.	Merinos-Palas (4)	0.6	Frequent	0.60	6	1	83.33
4.	Merinos-Palas (6)	0.9	Medium-Frequent	0.70	7	4	42.85
5.	Merinos-Palas (7)	0.5	Medium-Frequent	0.55	6	1	83.33
6.	Merinos-Palas (8)	0.7	Rare	0.65	8	1	87.50
7.	Merinos-Palas (9)	0.9	Medium-Frequent	0.70	7	2	71.42
8.	Prolific population (11)	0.6	Medium-Frequent	0.60	5	1	80.0
9.	Prolific population (12)	0.9	Medium-Frequent	0.70	7	2	71.42
10.	Prolific population (13)	1.0	Medium-Frequent	0.80	9	2	77.77
11.	Prolific population (14)	0.7	Medium-Frequent	0.85	6	2	66.66
12	Prolific population (15)	0.6	Rare	0.40	8	1	87.50
13	Prolific population (16)	0.6	Medium-Frequent	0.85	9	3	66.66
14	Prolific population (17)	0.9	Medium-Frequent	0.70	6	1	83.33
15	Prolific population (19)	0.7	Medium-Frequent	0.80	8	3	62.50

* NR – Gelded- %

Out of the lot of 18 young he-goats belonging to Carpatina breed, at the age of 7-10 months 15 males present a normal sexual behaviour (83.33%) and the seminal material could have been collected. In view of the quality of seminal material it could be appreciated that 4 young he-goats presented poor quality seminal material and the rest of 11 presented high quality seminal material (high values of density and mobility), but the volume was reduced, varying from 0.5ml and 0.9 ml. At the natural mating were used all the young he-goats and fecundity between 57.14% and 83.33% was obtained, calculated on the basis of gelded (NR%). It was noticed that out of the male lot of Carpatina breed the ones that did not present sexual reflexes at the age of 7-10 months and 19-22 months were not capable for reproduction and the ones that had poor quality seminal material, continued to keep it the same.

From the above noticed can be drawn the conclusion that it is a good thing that within the technology of evaluating the males for reproduction to provide that, this one should be executed after the age of 8 months, in order to have the best results. It was noticed that the evaluation of young males made at the age of 7-10 months corresponds with the one performed at the age of 19-22 months and not all the males are capable for reproduction and its acquisition is not enough to be done after origin body development, conformation and constitution, but also its reproductive value should be certified, method which is not applied nowadays within the sheep and goats breeding farms.

Table 6

Estimation of seminal material and the capacity of service to the he-goats belonging to Carpatina breed at the age of 8-10 months with normal sexual reflexes

Crr No.	Breed/ code	Quantity and quality of sperm			Serviced goats (n)	Gelded goats (n)	NR*% (after the first service)
		Volume (ml)	Quality of sperm				
			Density	Mobility			
1.	Carpatina (11)	0.3	Rare	0.3 0	5	1	80.0
2.	Carpatina (12)	0.5	Frequent	0.60	6		83.33
3	Carpatina (14)	0.6	Medium- Frequent	0.70	7	2	71.42
4	Carpatina (16)	0.7	Medium	0.55	7	2	71.42
5	Carpatina (17)	0.5	Medium- Frequent	0.70	4	1	75.0
6	Carpatina (18)	0.9	Medium- Frequent	0.70	7	3	57.14
7	Carpatina (19)		Medium- Frequent	0.55	6	1	83.33
8	Carpatina (20)	0.7	Rare	0.65	8	2	75.0
9	Carpatina (31)	0.5	Rare	0.60	7	2	71.42
10	Carpatina (20)	0.6	Medium- Frequent	0.60	5	1	80.0
11	Carpatina (31)	0.7	Medium- Frequent	0.70	7	2	71.42
12	Carpatina (32)	0.5	Medium- Frequent	0.80	9	2	77.77
13	Carpatina (35)	0.7	Medium- Frequent	0.85	5	2	60.0
14	Carpatina (37)	0.6	Rare	0.40	8	2	75.0
15	Carpatina (39)	0.6	Medium-Frequent	0.85	9	3	66.66

* NR – Gelded - %

Conclusions

1. The medium weight values of lambs and kids calved by little ewe-lambs and young kids early used for service are close to the weight medium values of the lambs calved by adult sheep, values which are quite small for the lambs calved by the sheep, not only by simple dropping, but also by twin ones, which is outnumbered.
2. The main index of reproduction achieved by the early usage of female youth to the reproduction was situated at all the animal lots at the level of characteristic values for the sheep and goats breeds or populations belonging to Carpatina breed; for little ewe-lambs and young female kids close values were obtained, but slightly low.
3. By the early usage of young sheep and goat male the following were noticed:
   - the male lamb belonging to Palas Merino breed at the age of 7-10 months were 80% capable for reproduction and the fecundity between 42.85% and 87.50% was obtained;

- the male lambs from the prolific Palas population were capable for reproduction in a percent of 88.8%, a fecundity between 62.50% and 87.50% being obtained;
- out of the young he-goats lot belonging to Carpatina breed at the age of 7-10 months, 83.33% of males presented a normal sexual behaviour obtaining a fecundity between 57.14% and 83.33%;
- the males that did not present sexual reflexes at the age of 7-10 months and also of 19-22 months were not capable for reproduction and the ones that had poor quality material continued to keep it the same;

4. The evaluation of young males performed at the age of 7-10 months corresponds to the one performed for reproduction at the age of 19-22 months and not all the males are capable for reproduction and its acquisition is not enough to be done only according to its origin body development, conformation and constitution, but also its reproductive value should be certified.

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