

**ANALYSIS OF REPRODUCTIVE PERFORMANCES AND REPRODUCTION INDICES
IN MERINOS OF PALAS BREED AND HALF-BREED**

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Abstract

The intensification of the reproduction function has the same dimension, both for private breeders, and for elite farms, which provides sheep material specialized for meat, milk or lambskin. Researches were effectuated on sheep and ewes from Merinos of Palas breed and half-breeds from Tigaie and Turcana. Females considered in the study, were raised in normal conditions insuring through administered forages at least 1,6 U.N., 150 g P.D., supplementing with 25-30% in the period of experimental lots formation and were maintained three weeks after mating. In order to obtain high productions, the natural season of reproduction was considered. The evaluation of reproductive performances was done between 2005 and 2007 in three units, which were taken in observation. Knowing the factors that influences the reproduction might contribute to the reduction or increasing of the reproductive parameters and consequently to the raising or decreasing of the incomes.

Keywords: sheep, season mating, mating, photoperiodism

1. INTRODUCTION

In recent years, the sheep numbers in our country have diminished dramatically, which indicates that recovery of the sheep flocks can be achieved by directing and intensification of reproductive function [2].

Sheep flocks decreasing have occurred in the breeding farms, the specialized farm and at the level of research and breeding of sheep farms, following the disappearance of internal markets for the wool sale (affecting Merinos and Tigaie breeds) and the loss of meat markets (Arab countries and Russia).

Demand for sheep meat is growing and livestock recovery can be achieved applying advanced technologies for directing the reproduction function and practicing of a adequate management. Restoring the sheep flocks in a shorter period of time implies the transformation of sheep from polycyclic seasonal females' sheep in annual polycyclic females. This can be achieved by applying methods of directing the reproductive function, its intensification and control of the sexual cycle.

Directing sheep reproductive function should be correlated with the market demand in order to achieve maximum productions, which will increase the number and profitability of sheep flocks.

For this purpose it is necessary for selecting reproductive individuals and mating match, not only to create a high heritability and especially to upgrade or to show this potential heritability in new offsprings in its totality.

Sheep are part of the mammal to which environmental factors can regulate, run and control the reproduction function [9].

Sheep reproductive function is influenced by daylight, being correlated with the seasonal changes of the intensity of gonadotropic function [1].

In our country the sheep reproductive season starts in the months and days when daylight decreases. Manifestation of heat is inversely proportional to the day-light. Diurnal-nocturnal rhythm is the factor that determines the season and fertility in sheep [3].

2. MATERIAL AND METHOD

Researches have been conducted on an average flock of 3208 heads of sheep and ewes from Merinos breed, Turcana and Tigaie. It was considered the natural reproduction season in 2005-2007, from three units located in different areas according to table 1.

Table 1. The sheep livestock used in the experience

Unit	U/M	Year	Year	Year	Total
		2005	2006	2007	
		Sheep	Sheep	Sheep	
Unit A	nr.	490	410	400	1300
Unit B	nr.	390	360	350	1100
Unit C	nr.	300	260	248	808
Total	nr.	1180	1030	998	3208

The structure of females sheep studied in the first year of experience is presented in the table 2.

Table 2. The females sheep considered in the experience

Unit	U/M	Sheep	Ewe	Total female
Unit A	nr.	340	150	490
Unit B	nr.	270	120	390
Unit C	nr.	210	90	300
Total	nr.	820	360	1180

The analysis of female sheep group has shown a higher number of sheep than ewes.

3. RESULTS AND DISCUSSION

Reproduction in sheep is influenced by various factors. These include genetic potential, state of maintenance, environmental factors, day light duration (photoperiodism), early use of young females, the effect of ram, health status, etc.

In general, most breeds of sheep have a seasonal reproduction and running of cycles begins with the day decreasing (Figure 1).

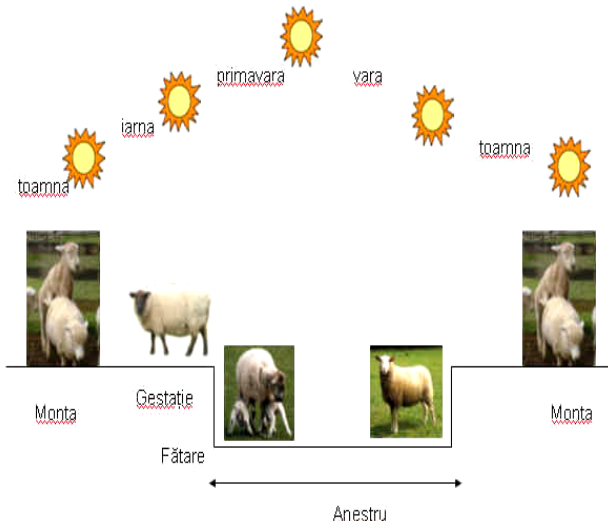


Figure 1. The influence of the environmental factors on sheep reproduction

Natural breeding season in the three units is in the following months June-August-November. The analysis of results presented in table 3 shows that the sheep breeding season covers a longer period of time.

Natural oestrus duration is more than 100 days, which makes calving to take place over a long period of time resulting in a different growth rate and an uneven production of lamb / meat. This disadvantage is also felt in the case of employment in high percentage in the campaign of mating and calving hindering other farm operations.

Considering the abovementioned aspects, it requires the synchronization of estrus in sheep and ewes in the natural season of reproduction. This can be achieved by directing the sexual cycle, which in the natural reproduction season may merge sheep in heat or estrus in as much as possible percentage and in a shorter period of time.

By merging matings / I.A. we can organize a rational feeding during pregnancy and lactation period.

By synchronizing estrus, a planning may be performed obtaining lambs about the same age (uniform) providing favorable conditions for twin lambs or orphans using sheep-nurses [7].

By merging births, a supplementary feeding of lambs may be realized during lactation period. It can split the shelter in compartments and divide the lambs in groups [8].

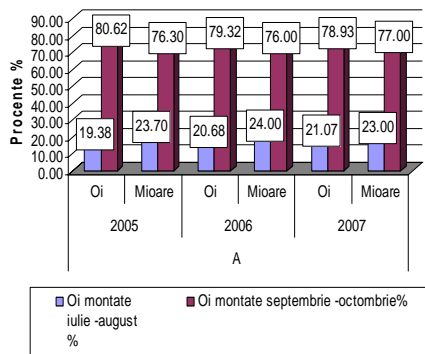
Merinos sheep, Tigaie and Turcana breeds are grown in south and southeast, in a percentage of over 90%, and their natural reproductive season is during July-October period. The highest frequency occurs in September.

Table 3. Estrus frequency in natural season of Merinos de Palas and Tigaie breeds between 2005 and 2007

Unit	Year	Category	Sheep mating July - August	%	Sheep Mating September - October	%	Sheep in estrus	Total
A	2005	Sheep	63	19.38	262	80.62	325	460
		Young sheep	32	23.70	103	76.30	135	
	2006	Sheep	60	20.68	230	79.32	290	390
		Young sheep	24	24	76	76	100	
	2007	Sheep	59	21.07	221	78.93	280	380
		Young sheep	23	23	77	77	100	
B	2005	Sheep	63	23.68	203	76.32	266	381
		Young sheep	29	25.22	86	74.78	115	
	2006	Sheep	60	24.39	186	75.61	246	351
		Young sheep	26	24.76	79	75.24	105	
	2007	Sheep	64	25.91	183	74.09	247	344
		Young sheep	25	25.77	72	74.23	97	
C	2005	Sheep	30	15.78	160	84.22	190	262
		Young sheep	15	20.83	57	79.17	72	

2006	Sheep	29	16.1 1	151	83.8 9	180	238
	Young sheep	12	20.6 8	46	79.3 2	58	
2007	Sheep	30	17.6 4	140	82.3 6	170	228
	Young sheep	12	20.6 8	46	79.3 2	58	

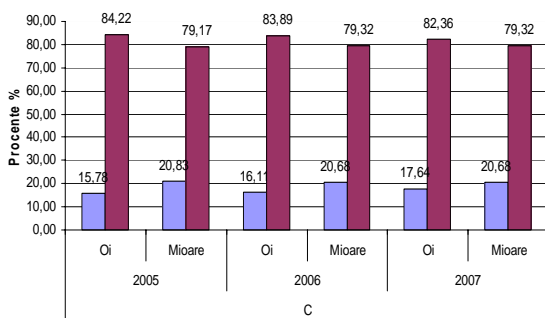
In Merinos of Palas breed exists some specimens that show their heat even in July-August (table 3). As the Tigaie breed shows the heat in a lower percentage both in adult sheep (19.38-21.07%) and in ewes (23-24%) than the Merinos: adult sheep (23.68-25.91%) and in ewes (24.76 - 25.77%) (Graphic 1).



Graphic 1. Estrus frequency in natural season of sheep in A Unit

By analyzing the frequency of estrus in natural season in the C unit is growing breed of Merinos and Tigaie crossbreds, it was found that sheep had a much lower frequency compared to the ewes in the same period (Graphic 2).

In most females, mating season is influenced by daylight duration (Table 3).



Graphic 2. Estrus frequency in natural season of sheep in C Unit

It is recommended the selection of specimens that enter into reproduction season in July-August and introduction in the program of acceleration of births to obtain high productions of meat.

Accurate knowledge of the beginning of estrus and ovulation are very important data in order to achieve a rate of fertility in sheep biological limits [6].

4. CONCLUSIONS

Natural oestrus duration is more than 100 days, which makes calving take place over a long period of time resulting in a different growth rate and an uneven production of lamb / meat.

Merinos of Palas breed manifests its heat in July-August in a higher percentage than Tigaie breed.

It is recommended the selection of specimens that enter into reproduction season in July-August and introduction in the program of acceleration of births to obtain high productions of meat.

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