

Influence of Food Type on Reproductive Indices in Young Sheep of Tsigai Breed

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Abstract. The results regarding influence of structure food on the main reproductive indexes in young sheep female of Tsigai breed, 12-13 months old are presented in this paper. The main reproductive indexes were calculated in time period October 2009-May 2010 for three groups of young female sheep. Groups were fed with different rations structures: string, semi-concentrated and semi-succulent. Results showed that the highest values of reproductive indices were recorded in group fed with ration of semi-succulent type.

Keywords: Tsigai, reproductive, feed, indices, females, young

INTRODUCTION

Young sheep females of Tsigai breed is usually introduced in reproductive activity at age 18-19 months old.

By using earlier of young female for first mating, namely to 12-13 months, they enter in the economic cycle of production by almost on year earlier (Pascal, 2007). Practicing early mating are indicated and necessary in the case of sheep breeding. They are possible and even recommended as bio-economic report, provided however that young females used to showed on body weight of 2/3 of the animal adult stage at mating date (Pascal, 2007).

Approach about productions level at the races, economicity of sheep sector, etc., must be done from the consideration that only at a normal diet are obtained productions at the genetic potential of a breed, and evolve normally processes of fecundation, gestation, and post-embryonic growth of lambs and young ovine.

The food level prior to mating period is one of the factors that influence fertility and prolificacy in sheep (Neacșu *et al.*, 2006).

MATERIALS AND METHODS

Biological material that has been made research consisted of 45 heads of young female sheep of Tsigai breed, 12-13 months old. The 45 heads of young female were divided

into three lots of 15 head in each group, allotments animals was done based on body weight, so as to ensure homogeneity both within batch and between batches.

The research was conducted at the Reghin Research and Development Station for Sheep and Goats, Mures County in the period.

In order to achieve of research objectives were realised following works: making of body measurements in young sheep at the beginning of the experiment and at the beginning of mating (after three weeks from beginning of experiment); testing of feed rations of strip, semi-concentrated and semi-succulent type; determination of feed consumption; determination of reproductive indices.

Animal groups were housed in the same stall, to benefit from the same microclimate conditions. Housing area was of 0.8 m²/head. Feeding front ensured was 15-20 cm/head, and the watering front of 10-15 cm.

For determining body weight of young sheep were realised weighing on electronic balances.

We followed as the same rule fodder to be administered in three structures rations: ration of string type, concentrated and succulent ratio type. Rations of string type had provided 70% fibber (hay, straw), 10% succulents (maize silage) and 20% concentrated, reported to dry matter of ration.

Semi-succulent rations type secured 40% succulents, 35% fibber and 25% concentrated, of dry matter ration.

Semi-concentrated rations type secured 50% concentrated, 10% succulents and 40% fibers, expressed to the dry matter ration.

Rules fodder provided for young females sheep in age of 12–13 months old was: 1.5 D.M., 1.25 UNL and 83 PDI.

Concentrates used consisted of: maize (50%), bran (25%) and barley (25%).

In the last two months of pregnancy period, the lots received the same type of ratio as befor maiting, but the food rules were supplemented with 20%.

Fodders were daily weighed and administered, and every 3 days were collected and weighed uneaten rests.

Detection of females in estrus was made daily, by placing the try rams every morning in the stall.

RESULTS AND DISCUSSION

At the beginning of the experiment, and at the beginning of the mating, was recorded body weight of animals included in the experiment, by individual weighing. Data recorded at the two moments are presented in Tab. 1.

Tab. 1

Body weight of young females sheep (kg)

Specification	At the beginning of the experiment n = 15		At the beginning of mating n = 15	
	X ± sx	V%	X ± sx	V%
Group 1	35.56 ± 1.07	11.64	37.94 ± 1.13	11.53
Group 2	36.40 ± 1.28	13.61	38.62 ± 1.26	12.63
Group 3	36.68 ± 0.94	9.92	39.11 ± 1.29	12.76

Note: the differences between the three lots are not significant (Student test, P>0.05)

The data table is found that the lots had a similar body weight at the beginning of the experiment and at beginning of mating.

After analysing the quantity of feed consumed was found that all rations had a good consumability, uneaten remains feed being very small. Consumability of fibrous fodder was 95.48%, 91.82% of the semi-succulent fodder, and 98.73% of semi-concentrated fodder.

Animals belonging to the three groups were well prepared for the reproductive season, the percentage of young sheep in oestrus being 80–93.33% (Tab. 2). The greater value of oestrus index is noted to lot fed with semi-succulent ratio type. The high percentage of young females in estrus showing that the ratio of semi-succulent type influence occurrence of first oestrus.

Considering the age of young females, we believe that the percentage of occurrence of the first oestrus is good to all lots, because the value of this index characteristic of Tsigai race is the 90-98%.

Tab. 2

Reproductive indices made by young females sheep (%)

Indexes	Group 1	Group 2	Group 3
Oestrus index (E%)	80.00	93.33	86.67
Fecundity index (Fm%)	91.67	92.86	92.31
Birth index (N%)	66.67	86.67	80.00
Prolificacy index (Pf%)	90.91	107.69	108.33

The fecundity index calculated after natural insemination had occurred for all the females. Its values are between 91.67%-92.86% to the three lots, very close to the value characteristic of Tsigai breed, its value is between 93-97% (Dărăban, 2006). We can infer that the sheep were inseminated at the optimum time and became pregnant.

The results of reproductive activity in young females sheep of Tsigai breed are illustrated by the birth index. The value of birth index is between 66.69-86.67%, the lowest value being recorded in group 1.

Tsigai sheep have an average prolificacy index of 105–114% (Miclea *et al.*, 2009). Its values for the studied animals are 90.91% in the group 1, 107.69% in group 2 and 108.33% for the group 3.

Parturition in young sheep included in the experiment went normally, without registering dystocia at calving, and without special problems.

CONCLUSIONS

Structure of feed rations influence occurrence of first estrus on young female sheep aged 12 - 13 months.

Reproductive indices appreciated are adequately in all groups. Best results in this appearance were obtained in groups fed with semi-succulent and semi-concentrate rations.

Acknowledgments. This study was financed by the National Authority for Scientific Research through the National R&D and Innovation Plan II, Partnerships in Priority Fields Program, grant 52131/2008.

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