Prolificacy of ewes and survival rate of lambs after hybridization

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Introduction

The prolificacy of ewes and the survival rate of lambs are the most important economic indicator of sheep breeding effectiveness. They depend on different factors, and their interaction.

The aim of this research was to study sheep prolificacy in the hybridization of domestic sheep (Ovisaries L.) with Argali (Ovisammon L.), and survival rate of their lambs up to 120 days of age.

Material and methods

We were evaluated: Romanov breed ewes (Group I, n=16), hybrids with the genotypes ¼Argali × ¾Romanov breed (Group II, n=11) and ⅛ Argali × ⅞ Romanov breed (Group III, n=21),
and their offspring (total: n=124).

The lambs were obtained from crossbreeding:

- ewes Group I with a hybrid ram (½Argali × ½Romanov),
- ewes from Group II with ram of the Mount Katahdin,
- ewes from Group III with Romanov breeds ram.

Statistical analysis was performed using Chi-squared test in the IBM SPSS Statistics
v.23.0.0.0 software package.

Results

The relationship between prolificacy indicators, ewe genotypes, number of lambs in the litter, and lambs survival rate was determined ($P<0.01$).

The prolificacy of pure-breed Romanov ewes averaged 2.65, while in hybrid sheep from group II it was 2.18, and **2.76** in group III.

A high frequency of twins in lambing was found 31.2% in pure-bred Romanov ewes, followed by hybrids Group II 45.5%, and Group III 40.9%.

Only pure-breed Romanov ewes and ewes in Group III delivered four or five lambs: four lambs from 6.25% of Romanov ewes, and five lambs from 9.1% of hybrid ewes.

Conclusion

The relationship between survival rate of lambs and the genotype of their fathers was significant ($p<0.01$) in the studied population, but not with their mothers.

Survival rate was higher if ewes were inseminated with pure-bred males compared to using hybrid males.

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