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Sheep breeding and programmes for different types of breeds in Bulgaria

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SUMMARY - Problems related to the sheep breeding situation in conditions of a market economy, description of the populations and their productivity, breeding programmes for three specialized for different purposes breeds in productions of: wool and meat; milk and meat; wool, meat and milk, are discussed in the manuscript. According to the new structure of the sheep populations, genetic improvement programmes need to be designed, which include the characters to be improved.

Key words: Sheep breeds, Blackhead Plevan breed, Askanian, Northeast Bulgarian merino breed, breeding programmes.

Introduction

The reform in Bulgarian economy and respectively in agriculture led to reduction of the number of the livestock in last five years. There are 3396 thousand sheep in 1995, which number is less than 50% of the total number of sheep in 1989 and 92% of the sheep are in private farms. As a result of the number reduction the genetic structure of the populations was destroyed and the breeding programmes need to be designed in near future.

The new structure of the pedigree sheep population can be characterized as follows:

| | |
|----------------------------|-------|
| Merino breeds | 33.4% |
| Crossbred | 10.8% |
| Breeds for milk production | 34.6% |
| Tzigai breed | 8.1% |
| Local /aborigene /breeds | 12.7% |
| Breeds for meat production | 0.4% |

During the last 3-4 years a lot of effort has been expended for preservation of the pilot flocks of some breeds in the stations of the Research Institutes, belonging to the Agricultural Academy. In the Razgrad station of the Institute of Animal Science -

Kostinbrod there is a complex for 4000 ewes with lambs, where three specialized breeds for different purposes - Northeast Bulgarian merino, Askanian and Blackhead Plevan - are bred.

Description of the sheep populations or breeds

Number of head

| Breed Category | Northeast Bulgarian | Askanian merino | Blackhead Plevan |
|----------------|---------------------|-----------------|------------------|
| Sheep | 965 | 598 | 1418 |
| Ewes | 802 | 506 | 1200 |
| Rams | 13 | 12 | 14 |
| Hoggets(fem) | 150 | 80 | 204 |

Origin of the breeds and productivity

North-East Bulgarian Merino

The most popular merino breed in the country was created by crossing of native sheep with participation of the breeds Merino fleish and Russian Askanian. Ewes have the following characters: average live weight - 74 kg; greasy wool yield - 7.8 kg; milk yield - 36 l and prolificacy - 127 lambs. Staple length of the wool is 8.5 - 9.0 sm and wool finess - 20.5 to 23 microns.

Askanian Merino

This breed was created in Russia by crossing of Russian merino sheep and using rams from American Rambue breed. At the beginning of the process of population formation in our country, purebred ewes from different lines were imported and later on only rams.

The following characteristics of the ewes can be given: average live weight - 78 kg; greasy wool yield - 9.4 kg; prolificacy - 121 lambs. The wool finess is 20.5 to 23 microns and staple length - 7.5 to 9.0 sm.

Blackhead Plevan

This is a local sheep breed with higher milk productivity-milk yield of 88 l and average milk production for 200 days of 198 l. The greasy wool yield is 3.2 kg and prolificacy - 143 lambs.

Description of the production systems

Size of flocks

250-260 ewes.

Land used - 5600 dk land of state property.

Management

The system of management of sheep is intensive not only in the plains, where the pasture is limited, but also of the mountainous regions. The basic reason for the sheep being kept indoors are the severe conditions in the winter.

The system of reproduction includes 30 - 35% of reproduction.

The milking is twice - daily by hand.

Breeding programmes and description of the characters

Sheep breeds for milk production - Blackhead Plevèn

- Birth type
- Live weight on age of: 1 day, 60 days (weaning weight), 9 months, 18 months, 2.5 years, 3.5 years
- Milk productivity: quantity of milk on every 30 days and for 200 days lactation period; quality - milkfat and protein
- Prolificacy

Sheep breeds for merino wool - Askanian breed

- Birth type
- Live weight on age of: 1 day, 60 days (weaning weight), 9 months, 18 months, 2.5 years, 3.5 years
- Prolificacy
- Greasy fleece weight
- Clean wool yield
- Fibre diameter
- Staple length

Sheep breeds for three purposes (wool, meat, milk) - Northeast Bulgarian Merino breed

The characters are the same as those for the breeds for merino wool and in continuation include:

- Milk yield and milk productivity for 120 days lactation period

Methods of selection

Selection for Multiple Objectives

Selection for several objectives involves knowledge of certain genetic parameters:

- Relationship between characters
- Selection indices
- Best Linear Unbiased Prediction (BLUP)

Reproduction techniques used

Twice-daily artificial insemination is applied all over the populations (July 7 to September 1).

Conclusion

The investigation on the genetic structure of all breeds of the national sheep population and standardization of the performance recording system will allow us to design genetic improvement programmes.

The most important selection objectives for dairy sheep breeds are the milk productivity, taking into consideration milkfat and protein, and an increase in prolificacy by using of suitable breeds and intensive selection.

The development of the societies and associations is expected to contribute for the improvement of the sheep industry.

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