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Biological Properties And Breeding Of Meat And Wool Sheep

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ABSTRACT

The article deals with the timing of reproduction, methods of reproduction, productivity, growth and development of offspring, biological, tribal features of meat and wool sheep in Uzbekistan. In order to increase the competitiveness of sheep breeding in Uzbekistan, using the best global gene pool, a new breed group of sheep with meat and wool productivity (Uzbek meat and wool sheep) has been bred. The introduction of meat and wool sheep into the practice of artificial insemination by frozen sheep seeds characteristic of the world sheep gene pool showed that the live weight of lambs taken from them, compared with the live weight of lambs obtained from natural insemination, was higher-0.4 kg (9.3%), at 10-day-0.5 kg (6.8%) and 3-month-old age-0.4 kg (1.3%).

KEYWORDS

Artificial insemination, breeds, cultivation, lambs, live weight, meat and wool sheep, sheep, wool.

INTRODUCTION

The biological properties of sheep are a set of morphophysiological properties that determine the characteristics of productivity and the influence of the body on the reaction

of the external environment. Therefore, to fully realize the genetic potential of sheep, feeding and care factors must be normal. One of the main features of sheep is that they have high flexibility and high ductility to various conditions. As a result of good flexibility and

high plasticity of sheep, it became possible to create many species in various environmental conditions in the desert, mountainous and lowland areas. Sheep are animals that are very well adapted to the conditions of pastures. Of the more than 800 plant species that animals feed on in the world, sheep consume 520, cattle-460, horses-416 plant species. The current tasks are the preservation and reproduction of the gene pool of these sheep by breeding fast-growing breeds of competitive sheep that meet modern market requirements, creating productive breeding studs of fast-growing meat and wool sheep created in our country, creating breeding herds of highly productive sheep for meat productivity, improving the selection characteristics for the productivity of the generations withdrawn from them. Work on the creation of breeding groups of meat and wool sheep of Uzbekistan began in the second half of the last century, that is, from 1953-1954, and was carried out by scientists of the Animal Husbandry Research Institute. One of the sheep breeds well adapted for breeding and breeding in the mountainous and foothill regions of the republic is meat and wool sheep, which differs from other sheep breeds in that they are well adapted to environmental conditions (rainy, snow and wet cold). Sheep of this breed has high hereditary properties in terms of their productivity in conditions of good pasture environment [1].

The biological features of meat and wool sheep depend not only on their physiology but also on their anatomical features: they feed on plants, dry stems, weeds, which are characterized by the proportionality of the surface of the head, the hardness of the teeth and the small fast-growing ability of the lips, differ from other farm animals in their nutritional properties even in low-growing pastures. Sheep not only use all types of

pastures well but are also hardy to the qualities of pastures, of which different plants are animals that produce a bitter, strong smell, spiny plants, many of which can freely eat alien plants.[2-5] These features of sheep have very great practical value, mainly due to the use of areas unsuitable for crops or unable to feed other types of agricultural animals. The use of methods of keeping sheep in pasture conditions further increases the economic efficiency of the economy, if the conditions on pasture are sufficient, then even in winter it will be possible to feed on pasture, which will save the feed. The fertility of sheep increases and health improves. Most meat and wool sheep consume fat in their bodies in extreme (unfavourable) conditions when there are interruptions in nutrition and watering. In conditions where nutrients are good, they accumulate in the fat body. These valuable biological properties of sheep contribute to the fact that they come out of difficult conditions even during winter pastures when snow falls [7].

The use of artificial insemination in sheep farming significantly increases the chances of using high-value hereditary opportunities. Artificial insemination of sheep compared to the natural method of insemination makes it possible to fertilize more than a hundred sheep from the seed of hereditary sheep in one season of insemination. With artificial insemination, one hereditary ram accounts for a norm of 500-700 ram heads. Artificial insemination is also possible in one season with seeds of 5-6 thousand sheep, with seeds of famous sheep breeds, which have high breed value. With natural fertilization, it will be possible to fertilize 40-50 sheep heads with one offspring of a ram [6].

MATERIALS AND METHODS

Scientific research was carried out in 2019-2021 in the tribal farm “Kholturaev Oybek-KhM” of the Akhangaran district of the Tashkent region. At the birth of lambs, the live weight at the age of one month and three months was studied by generally recognized methods in animal engineering. External indicators of sheep in experimental groups were calculated by measuring body parts and body structure index in the methods of A. A. Veniaminov, S. V. Builov, R. S. Khamitsaev (1978). The peculiarities of sheep's wooliness were studied according to the method of V.V. Kalinin. Correlation coefficients between the main features of sheep selection were calculated by the method of R. Schiller, J. Wahal, J. Winsh (1973). The live weight of sheep, the productivity of wool was compared with the minimum requirements for the template of class 1 meat and wool sheep. The obtained data were processed by the method of E.K. Merkuryev (1970).

Studies were carried out in meat and wool sheep, in origin, breeds and age similar to each other. Two-year-old sheep of 50 heads were selected in both groups, in the I experimental group on September 1-20 and in the II control group on October 10-30, which differ from each other in the breeding time.

RESULTS AND DISCUSSION

Meat and wool sheep differ from other sheep breeds in their resistance to environmental conditions, rapid ripening, multiplicity, delicate, loose and juicy meat, and high wool productivity. However, in recent years, no scientific research has been carried out to improve the breeding properties of these sheep and to study the effect of various breeding seasons on the performance characteristics of their offspring. During the study, we studied live mass and woollen productivity of sheep (Table 1).

Table 1. The live weight of sheep and wool productivity.

| Indicators | Unit of measurement | Sheep breed Jaidari | | Meat and wool sheep | |
|-----------------------|---------------------|-------------------------|-------|-------------------------|-------|
| | | n-100 | | n-100 | |
| | | $\bar{X} \pm S \bar{x}$ | Cv,% | $\bar{X} \pm S \bar{x}$ | Cv,% |
| Live weight sheep | kg | 58,3±1,23 | 21,1 | 52,5±1,06 | 20,2 |
| Sheared wool | kg | 2,54±0,072 | 12,75 | 3,8±0,126 | 14,78 |
| Weight after flushing | kg | 1,43±0,04 | 12,37 | 2,4±0,051 | 9,54 |
| Length of wool | cm | 11,07±0,163 | 6,59 | 13.2±0,034 | 10,14 |

According to Table 1, the live mass of Jaidar purebred sheep was 5.8 kg (11.0%) higher than the live mass of meat and wool sheep. In terms of wool productivity, meat and wool sheep showed higher results than Jaidari sheep: the amount of wool during haircut -

1.26 kg (49.6%); weight after washing - 0.97 kg (67.8%); wool length - 2.13 cm (19.2%). It should be noted that these sheep exceed the minimum regulatory requirements of the breed for woollen productivity of mature meat and wool sheep. This indicates that meat

and wool sheep have fully retained their genetic potential for wool productivity. Newborn lambs consume an average of 5 kg of breast milk per kilogram of excess weight, and at the age of 2.0-2.5 months, they need to suck 1.2-1.5 litres of breast milk per day to gain an average of 250-300 grams per day. By the middle of the lactation period, breast milk gradually decreases, and the need for lambs

for nutritious food increases. Therefore, lambs are dressed on concentrated, hay and juicy foods from 15-20 days, from the best compound feed for lambs - oats, barley; One of the succulents is crushed root crops, which feed quality lucerne as much as you like. We studied live lamb weight 2020 years of birth in an experienced group at birth, at 30 days and 3 months of age (Table 2).

2 table. Living weight indicators of lambs, kg.

| Age | Gender | Sheep breed Jaidari | | | Meat and wool sheep | | |
|----------|-----------|---------------------|-------------------------|------|---------------------|-------------------------|------|
| | | I | | | II | | |
| | | π | $\bar{X} \pm S \bar{x}$ | Cv,% | π | $\bar{X} \pm S \bar{x}$ | Cv % |
| At birth | Ram lambs | 26 | 5,3±0,17 | 16,8 | 24 | 5,0±0,08 | 8,4 |
| | Ewe lamb | 24 | 4,9±0,04 | 4,08 | 26 | 4,7±0,07 | 8,1 |
| 30-day | Ram lambs | 26 | 17,7±0,263 | 7,57 | 24 | 17,2±0,357 | 10,2 |
| | Ewe lamb | 24 | 17,2±0,54 | 15,4 | 26 | 17,0±0,322 | 9,7 |
| 3 months | Ram lambs | 26 | 34,0±0,45 | 6,73 | 24 | 32,5±0,694 | 10,5 |
| | Ewe lamb | 24 | 31,6±0,577 | 8,95 | 26 | 31,2±0,314 | 5,13 |

Analysis of the data in the table showed that the live weight of lambs born from purebred sheep of group I was 0.3 kg (6.0%), and of females - 0.2 kg (4.3%) compared to sheep of group II. At 30 days of age, rams - 0.5 kg (2.9%) and sheep - 0.2 kg (1.18%), at 3 months of age, rams - 1.5 kg (4.6%) and sheep - 0.4 kg (1.28%). These data indicate that the live weight of lambs born from purebred sheep is higher than that of sheep. One of the valuable biological characteristics of sheep in a farm environment is the early awakening of sexual

attraction. Female lambs can be fertilized at the age of 5-6 months, but early fertilization negatively affects the growth and development of the body, so mostly lambs are first fertilized at 1.5 years old, and at this age, you can start using rams. We used the practice of artificial insemination of meat and wool sheep with a frozen seed of rams typical of the world gene pool, and this year they received offspring from them. The difference between artificial insemination of sheep and natural insemination is described in Table 3

Table 3. Live weight of lambs obtained from artificial insemination, kg.

| Age | Lambs obtained from artificial insemination | | | Lambs obtained from natural insemination | | |
|----------|---|-------------------------|-------|--|-------------------------|------|
| | n | $\bar{X} \pm S \bar{x}$ | Cv, % | n | $\bar{X} \pm S \bar{x}$ | Cv % |
| At birth | 10 | 4,7±0,134 | 9,44 | 10 | 4,3±0,125 | 9,16 |
| 10 day | 10 | 7,8±0,238 | 9,65 | 10 | 7,3±0,153 | 6,62 |
| 3 months | 10 | 32,8±0,513 | 5,09 | 10 | 31,4±0,592 | 5,95 |

Analysis of Table 3 shows that the living mass of lambs produced by artificial insemination with frozen sperm of tribal rams is higher than the living mass of lambs produced by natural insemination with tribal rams. At birth, they had high rates of 0.4 kg (9.3%), at 10 days - 0.5 kg (6.8%) and at 3-month age - 1.4 kg (4.5%). This shows that the introduction of artificial insemination with frozen rams sperm, specific

to the world sheep gene pool, is an effective method. The study of the relationship of the main selection features of lambs obtained as a result of artificial insemination and the systematic selection of selected correlation coefficients are of great practical importance for improving their selection features. Correlation coefficients between lamb selection traits were studied (Table 4).

Table 4. Correlation coefficients between selection traits of lambs.

| Signs of cross-linking | Lambs obtained from artificial insemination | Lambs obtained from natural insemination |
|---|---|--|
| Groups | I | II |
| Live weight at 10 days of age with live weight at birth | 0,699 | 0,724 |
| Live weight at 3 months with live weight at birth | 0,486 | 0,646 |
| Live weight at 3 months with live weight at 10 days | 0,526 | 0,591 |

According to the table, high positive correlation coefficients were found between the live weight at birth of lambs obtained from artificial insemination in group I, natural insemination in group II, live weight at 10 days and 3 months of age, and live weight at 10 days and 3 months of age.[8-10]

These data showed that the selection work on the positive correlation coefficients identified

between the selection traits of the lambs increased the selection efficiency.

CONCLUSION

The live weight of lambs obtained from artificial insemination of meat and wool sheep has a higher index than the live weight of lambs obtained from natural insemination by tribal rams. At birth, they had high rates of 0.4 kg (9.3%), at 10 days - 0.5 kg (6.8%) and at 3-

month age - 1.4 kg (4.5%). This showed that the introduction of artificial insemination with frozen rams sperm, specific to the world sheep gene pool, is an effective method. The fertility of meat and wool sheep is 100-130%, high maturity, along with high fertility, also makes it possible to quickly recoup the money spent on production. Thus, one of the pressing tasks of animal husbandry today is, firstly, the approximation of technological processes to the biological needs of sheep, and secondly, the creation of high-yielding, fast-growing sheep breeds, suitable for use in modern conditions using targeted selection methods.

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