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**Cotton Science International scientific journal**

Founder and Publisher **Zhōnghuá Mínguó**

Published science may 2021 year. Issued Quarterly.

**Internet address:** <http://journals.company>

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**Correlation coefficients of F1 hybrids obtained from crossbreeding of uzbek  
meat-wool ewes with purebred dagestan breed rams**

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**Abstract:** The article presents data on the fact that the correlation coefficients between the selection traits of F1 hybrid rams born from the crossbreeding of purebred Dagestan breed rams and meat-wool ewes are higher than those of pure meat-wool equals. For example, in Group I at 12 months, F1 hybrid female lambs born from the crossbreeding of purebred Dagestan breed rams and meat-wool ewes demonstrated a high positive correlation coefficient between wither height and oblique body length +0.600, rump height with wither height +0.997, absolute growth with live weight +0.976, daily growth with live weight +0.985, daily growth with absolute growth +0.994. It was observed that these parameters were high positive correlations, 0,88; 0,285; 0,21; 0,002; 0,004, respectively, between the selection traits, compared to those of the pure meat-wool equals.

**Keywords:** Breed, selection, correlation, hybrid, lamb, flock, live weight, exterior.

**Relevance of the topic.** A number of scientific and research works have been carried out in our republic and in foreign countries in order to preserve and increase the gene pool of soft and semi-soft wool-producing sheep and improve their productivity characteristics, as well as to create high-yielding flocks, and to improve the economic characteristics of the breed using the genetic potential of the breed, and the obtained results have been put into practice. The effectiveness of expanding the area of meat-wool sheep and improving their productivity characteristics using various factors has been determined. However, scientific research on crossbreeding Uzbekistan’s meat-wool sheep that produce semi-soft wool with merino - unique to

the world gene pool - rams and the increasing productivity characteristics of their offspring has not been sufficiently studied yet.

Selection based on one of the breeding characteristics of animals also affects the other. There are positive or negative relationships between signs - positive or negative correlation. The correlation coefficient allows to determine the intensity of the relationship between two characteristics, which varies from -1 to +1. This:

- if there is a negative correlation, the improvement of one sign leads to the deterioration of another;
- if the correlation is positive, the improvement of one sign leads to the improvement of another;
- if the correlation is zero, the signs are independent, that is, the signs are not connected with each other.

**The purpose of the research** is to determine the correlation coefficients of hybrid lambs of the first line obtained from crossbreeding Dagestan rams with meat-wool ewes.

**Place and object of the research.** Research work was carried out in 2022-2024 at the breeding farm "Xolto'rayev Oybek XM" in Ohangaron district of Tashkent region. In order to determine the correlation coefficients between the main selection characteristics of lambs, 15 lambs from 12-month-old F1 hybrids of  $\frac{1}{2}$  dagestan x  $\frac{1}{2}$  meat-wool breed were selected for experimental group I, and 15 heads of pure meat-wool lambs were selected for control group II.

**Research methods.** The external features of sheep in the experiment were determined by measuring body parts and the body structure indexes by Vinniaminov method (1977). Live weight, absolute, relative growth and average live weight of lambs were determined by using V.I. Fedorov (1973) and S.T. Brody (1945) methods. The data obtained were processed using variational statistical methods. In this case, the average indicator of signs ( $X$ ), its error ( $Cx$ ), variability ( $Cv$ ), and reliability criteria of comparative indicators ( $td$ ,  $P$ ) were determined by using the method of E.K. Merkureva (1970). Correlation coefficients between the main selection signs of

lambs were determined by using the Schiller R., Wahal Ya., Winsh Ya. (1970) method.

**Research results.** Some of the useful economic characteristics of sheep are related to each other in one way or another. As some traits may contradict each other, a positive correlation does not always yield good results. For example, high meat productivity and light breeding of sheep, which makes selection work somewhat difficult.

On our research we studied the correlation coefficients between the main selection signs of sheep. The results are presented in Table 1.

**Table 1**

**Correlation coefficients (p15) among the main selection traits of 12 month-old lambs**

| №   | Indicators                                   | I      |        | II     |        |
|-----|--|--------|--------|--------|--------|
|     |  | Male   | Female | Male   | Female |
| 1.  | Live weight with wither height               | 0,190  | -0,149 | 0,102  | 0,128  |
| 2.  | Live weight with oblique body length         | -0,318 | -0,218 | -0,004 | -0,180 |
| 3.  | Live weight with chest circumference         | 0,551  | 0,093  | 0,304  | 0,090  |
| 4.  | Wither height with oblique body length       | 0,922  | 0,600  | 0,578  | 0,512  |
| 5.  | Wither height with chest circumference       | 0,487  | 0,100  | 0,003  | 0,080  |
| 6.  | Chest depth with chest width                 | 0,504  | 0,163  | -0,155 | -0,013 |
| 7.  | Oblique body length with chest circumference | 0,207  | -0,070 | 0,022  | 0,231  |
| 8.  | Limb circumference with wither height        | 0,279  | -0,083 | -0,094 | -0,445 |
| 9.  | Rump height with wither height               | 0,997  | 0,997  | 0,986  | 0,712  |
| 10. | Live weight with absolute growth             | 0,981  | 0,976  | 0,986  | 0,955  |
| 11. | Live weight with daily growth                | 0,981  | 0,985  | 0,975  | 0,983  |
| 12. | Absolute growth with daily growth            | 0,999  | 0,994  | 0,983  | 0,990  |

As can be seen from table 1, in group I of 12 months of age, high positive correlation coefficients were found between these selection traits of F1 hybrid rams – male crossbreds of dagestan rams and meat-wool ewes: wither height, rump height with wither height, live weight with daily growth, absolute weight with daily growth (+0.922-+0.999). It was noted that correlation coefficients between these selection traits were also highly positive in pure meat-wool peers of group II (+0.578-+0.986), but a higher positive correlation of selection traits compared to pure meat-wool lambs was observed in F1 hybrid rams.

In Group I of 12 months of age F1 hybrid female crossbreds of dagestan rams and meat-wool ewes, it was determined that there is a high positive correlation between a wither height with oblique body length +0,600, rump height with wither height +0,997, live weight with absolute growth +0,976, live weight with daily growth +0,985, absolute growth with daily growth +0,994. These indicators show that there was a high positive correlation between the selection traits compared to their pure meat-wool peers 0.88; 0.285; 0.21; 0.002; 0.004, respectively.

In Group I, it was found that there is a high positive correlation between live weight, chest circumference and chest width on crossbred F1 rams of dagestan and meat-wool (+0.551-+0.504), average positive correlation between the wither height and the chest circumference (+0.487), low positive correlation between chest circumference with wither height, oblique body length with chest circumference, limb circumference with limb height, and negative average correlation between live weight with oblique body length (-0.318).

In group I, at the age of 12 months, the presence of these correlation coefficients were determined among the main selection traits of F1 hybrid females of dagestan rams and meat-wool ewes: low positive correlation between live weight with chest circumference, wither height with chest circumference, chest width with chest depth (+0,093-+0,163), and low negative correlation between live weight with wither height, live weight with oblique body length, chest circumference with oblique body length, limb circumference with wither height (-0.070-0.218).

According to the results of the analysis on the linkage of selection signs of Rams in Group II, it was determined that there is average positive linkage between the living weight with the chest circumference (+0.304), high positive linkage between wither height with oblique body length (+0.578), low positive linkage between the live weight with the wither height, wither height with chest circumference and chest circumference with oblique body length (+0,112-+0,003), low negative linkage between live weight with oblique body length, chest width with chest depths, limb circumference with wither height (-0,003-0,155)

In group II, correlation coefficients of female lambs were determined: high positive correlation between the wither height with oblique body length (+0.512), low positive correlation between live weight with wither height, live weight with chest circumference, wither height with chest circumference, chest circumference with oblique body length (+0,080-+0,231), average negative correlation between limb circumference and wither height (-0.445), and low negative correlation between live weight with oblique body length, chest width with chest depth (-0.013-0.180).

### **Conclusion**

It can be concluded that when restocking sheep flocks with young animals, carrying out selection work on high and medium positive correlation coefficients between the main selection traits of F1 hybrid lambs of dagestan and meat-wool will increase the efficiency of selection and will be of great practical importance in creating "breeding flocks" of sheep in the future.

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