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Organization of the system of conduct of breeding process during consolidation of the new-created types of domestic animals is not possible without application of all complex of genetic and statistic parameters, determining the condition, effectiveness and further progress of breeding work in active part of population. The special place is given to widespread use of analysis of variance, giving possibility to substantiate the results of experiments in stock-breeding and also to reveal statistically influence on changeability of a trait, which is studied, as for each factor separately and sofor their total action.

Study was carried out on materials of primary zootechnic and breeding accounting of sheep at "Runo" SE experimental farm of Dnepropetrovsk region. The program of researches included information about condition of basic economic-useful traits of ewes and their daughters and determination of character of their inheritance depending on condition and development of these traits at ewes.

The analysis of variance was conducted on the basis of determination of degree of influence, as for three basic quantitative traits in common, and so for each one separately, in general changeability of a trait. The importance of relationship of the investigated organized factors (live weight, length of wool, wool clip) at mothers was determined on the inheritance of the traits by their daughters by the method of three-factor analysis of variance. This method was offered by R. Fisher, its basis is decomposition of general dispersion on components consisting of the organized and casual factors.

Primary material of researches was worked out biometrical according to methods of E. K. Merkuryeva with the use of Microsoft Excel and STATISTICA 6.0.

The article presents the results of using different methods of statistical analysis of quantitative productive traits at the female lambs of Dnepropetrovsk type of Ascanian Meat-and-Wool breed under the influence of mothers. In terms of practical breeding it is important to know how the differences in productivity of ewes are inherited by their offspring. Analysing productivity of daughters and their mothers in coeval periods, we found significant differences. Daughter dominated their mothers significantly (live weight by 6.8-30.9 %, unwashed wool clip by 11.5-48.8 %) ( $P > 0.999$ ) by these productive characteristics excluding length of wool.

The impact of combined effect of live weight, length and wool clip of mothers on inheritance of daughters' live weight was determined by three-factor analysis of variance. The results showed that the total share of variance due to the influence of organized factors of mothers' genotypes was 12.2 %, while the amount of other unaccounted factors was 87.8 %.

The following results were obtained at determining the impact of factors, conditioned by maternal genotype. Thus, the total impact of the interaction of three factors of mothers on daughters' live weight was 4.5%. The combined effect of the interaction of live weight and length wool was most significant— 77.5%, and directly the influence of live weight of mothers on inheritance of this trait in

daughters was 10.2% of the total impact of factors, conditioned by maternal genes. But it should be noted that only the impact of mothers' live weight and total effect of two factors, namely live weight and wool clip ( $P > 0.999$ ), was significant, despite the fact that the percentage of share was 10.2% and 7.6% respectively.

At the same time, the combined interaction of three factors of mothers' influence on woollength was 18 %, and of each one separately was 0-0.6 %. It is quite predictably that the total impact of the interaction of live weight and length wool was most significant – 50.7 % in factorial variance and 1.7 % in general one, but the figure was below the probability ( $P < 0.95$ ).

Analysis of the impact of these factors in genetic diversity of influence of mothers on daughters' wool clip showed that despite the smallest percentage in the total variance of impact of genotypic features of mothers on the manifestation of this trait in daughters – 2% the combined interaction of three factors in factorial variance (ABC) was most significant – 30.0%. Live weight and wool clip of mothers collectively influenced most significantly on variability of wool clip, as evidenced by the high level of interaction influence of the above-mentioned characteristics and contribution in factorial variance – 50.6% ( $P > 0.999$ ).

Thus, studies have shown ambiguous nature of the impact of maternal genes on traits expression in daughters. The essence of this process is not linear and confirms the difficulty in the perception of inheritance as whole and for informal consideration it is clear that pleiotropic as well as polygenic effect of genes is not simply the sum of these genes. In view of the above, it can be argued that keeping in sheep breeding process should be carried out not only as the development of economically useful traits of daughters, but given their inheritance depending on the state and development of these traits in ewes.

***Keywords:* ewes, female lambs, breeding processes, productive traits, analysis of variance**