

## **THE COMBINED ALGORITHM DETERMINATION of BREEDING VALUE in the SHEEP BREEDING**

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*Modern animal breeding builds on an idea about the polygenic nature of the productive traits. In their formation participate as a genotype so and the environmental factors. The selection indexes are used for integrated assessment of animals. And more recently attention is increasingly being paid to the different models of a method BLUP which is the best linear unbiased prediction. The essence of this method is to use statistical corrections for the influence of the factors taken into account. It has been determined the breeding value of 9 rams-sires by combined algorithm using three methods consistently for each of the selection traits. For that was used a modernized method of daughter-coeval with a record number of effective daughters (CC, to calculate the actual values), BLUP methods and selection indices of Hazel (for theoretical values). As the result we have obtained the sub-indices which are combined into indices of the assessment of animals according to a complex of traits. When this was applied formalized linear model of the same species. It was solving the problem of determining the most appropriate valuation models sheep concerning the complex of their traits, and to avoid the subjectivity in the choice of investigation methods was used the mathematical tools multidimensional vector space. As a criterion is considered the most appropriate model, the modulus which has the minimal difference between vectors of the actual and the theoretical value, provided that comparative vectors are collinear and have the same orientation.*

*It is shown that the most appropriate method of determining the breeding value from the point of view of the criterion is BLUP. However, given not as high values for the difference of modules and simple algorithm for the input data, the method of selection indices of Hazel can also be applied in sheep breeding.*

**Keywords:** breeding value, selection indices, BLUP,  
comprehensive evaluation of animals, algorithm, linear model, vector.