VÚŽV
Výzkumný ústav živočišné výroby, v.v.i.

DEPARTMENT OF GENETICS AND BREEDING OF FARM ANIMALS
Economics of breeding and program ECOWEIGHT

The aim is a comprehensive evaluation of the farm economy and breeding of all livestock species using the modern bio-economic models and application of new knowledge in breeding

THE ACTIVITY OVERVIEW

The Group's activity is based on the direct application of production and economic parameters and the livestock production systems to develop the comprehensive bio-economic models. These models take a part of the program package ECOWEIGHT. The aim is to calculate economic weights (EW) for many traits to be further applied in breeding of various breeds of dairy and beef cattle, sheep, goats and pigs. In 2019, the program calculating EW traits for rabbits was developed and applied. At the same time, we carry out a constant upgrade of the existing models (e.g. in 2020, new fertility traits of pigs and new reproduction traits were incorporated into the programs). The aim is to increase flexibility and broad application of programs.

When calculating the EW, we actively cooperate with breeders and breeders associations, which simultaneously are a direct customers of our results. Calculated EW are, together with genetic parameters and breeding values, the basis for suggesting the objective selection criteria and subsequent selection in the livestock populations.

Furthermore, the bio-economic models are used to provide testing of various production and economic parameters on the farm profitability and efficiency. Our models are used in many European countries (Italy, France, Slovakia) and also outside Europe (Egypt, USA, Iran). The knowledge is directly applied to enhance the livestock competitiveness and selection.

TEAM

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KEY WORDS

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MAIN TOPICS & PROJECTS

- Routine collection of production and economic data to update the EWs of the livestock traits
- Calculation of EWs for the new traits:
  - health, reproduction, milkability and feed efficiency in dairy cattle
  - feed efficiency for different categories of beef cattle
- Application the EW of the traits complex to design the new and update existing selection criteria in pigs
- Testing the stability of EW for a set of production, reproductive, carcass and feed efficiency traits in rabbits
- Comprehensive evaluation of the impact of production and economic parameters on the farm profitability and the livestock production efficiency

KEY PUBLICATIONS

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