

Mathematical Model and Algorithm for Designing the Energy Balance of Athletes

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key words

energy balance, energy consumption, athlete, integral indicator, mathematical model

The modern scientific concept of designing the energy balance of athletes and their nutrition that can potentially provide homeostatic needs against the background of super-intensive loads is based on the latest achievements of physiologists, biochemists, nutritionists in conjunction with the use of advanced methods of extensive statistical information's mathematical computer processing. In this article, we have presented a mathematical model and a computational algorithm for the integral indicator of energy balance. It allows using many parameters that ensure the adequacy of energy consumption depending on energy consumption at different stages of the annual training cycle.

We believe that by solving the objective function related to the convex programming class, one can take into account the need to correct the energy balance, as well as additional introduction of products of increased biological value and other factors that are relevant for a particular user.

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