Название публикации:
The growth and development of living organisms from the thermodynamic point of view

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Аннотация:
The living organism is considered as an open system, to which Prigogine's approach to the thermodynamics of such systems is applied. The approach allows one to formulate a law of individual growth and development (ontogenesis) of the living organism, whereas it has taken into account that the development and functioning of the system are occurring under the special internal program. The thermodynamic equation of growth provides a method of estimation of the specific entropy of organism. The theory is compared with experimental data, whereas estimates of the specific entropy of some species are obtained, showing a reduction of specific entropy in the evolutionary sequence: yeast-insects-reptiles-birds. (C) 2018 Elsevier B.V. All rights reserved.

Ключевые слова:
Entropy of living organism; Energy exchange during growth; Thermodynamic equation of growth