FOOD SYSTEMS FOR MEDICATION AND PROPHYLAXIS OF DISEASES AND THE MATHEMATICAL METHODS FOR THEIR CREATION

G. Krutovyi

The objective of the research is to develop the concept for the creation of long-term food systems aimed at disease prevention and medication, which appear as a result of calcium deficiency; suggest the types of mathematical models, methods and computer technologies for further use during the creation of the named systems, including the analysis of the expected efficiency of their functioning.

Food systems are grounded on the ingredients of wide, mass consumption. During the research it is found that the most perspective direction of the research concerning the creation of the indicated mechanism for the realization of the integrally balanced nutrition is the development of long-term food systems for various categories of consumers. The concept of medical and preventive food systems (FS) creation with the use of mathematical toolkit is formulated in the article. A chain of mathematical models of linear programming for the projection of one meal rations for different purposes, and a task model of the integral programming for daily rations optimization are developed. Formal approach to simultaneous operational identification of scores of 10 essential amino acids is suggested. The method is aimed at the identification of proteins’ biological value in medical and preventive rations.

Keywords: food (nutrition) systems, mathematical models, correlations between nutrients, target function.