ABSTRACT

The thesis is presented in 50 pages. It contains 2 appendixes and bibliography of 12 references. Fifteen figures and 4 tables are given in the thesis.

The goal of the thesis is to improve inventory management through the development of dairy production system based on historical data. The system offers the option of product distribution in order to simultaneously meet the demand and minimize residual products in warehouses.

In the thesis, existing methods for inventory management of dairy products are analyzed, including heuristic method, artificial neural networks. Existing software solutions are also covered. The error backpropagation method for training the neural network is selected. To train the neural network, a set of historical data was formed based on the data produced by one of the leading Ukrainian companies in the field.

The system developed in the thesis is a complementary tool in the management of stocks of milk products for the professional in the field. The developed system was tested.

Keywords: inventory management, dairy products, artificial neural network, error backpropagation, perceptron.