

ABSTRACT

The thesis is presented in 43 pages. It contains 2 appendixes and bibliography of 13 references. 8 figures and 4 tables are given in the thesis.

This diploma thesis is devoted to developing a mathematical model and software for determination the dependence of productivity on the biological activity of the soil.

The comparative analysis of mathematical methods for determining relationships between variables and function is fulfilled. Advantages and disadvantages of these methods are described, the one that most closely matches the task is chosen. Choice is explained. The ways of calculating dependency taking into account factors affecting the biological activity are considered.

Calculations are made for experimental data obtained from observations in the period 2001-2010. The data provided for four types of soil with fertilizers. Researches are made for all these cases.

Keywords: biological activity, productivity, regression analysis, correlation analysis.