РОЗРОБКА НЕЛІНІЙНОЇ МАТЕМАТИЧНОЇ МОДЕЛІ ДЛЯ ОЦІНЮВАННЯ ЕФЕКТИВНОСТІ ВИКОРИСТАННЯ ЗЕМЕЛЬ ЛАНДШАФТНИХ ЗОН ЗАКАРПАТТЯ

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АНОТАЦІЯ

DESIGN OF NON-LINEAR MATHEMATICAL MODEL FOR EVALUATION OF APPLICATION EFFICIENCY TO LANDSCAPE ZONES OF ZAKARPATTIA

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To evaluate the application efficiency of agricultural lands through the perspective of soil fertility the degree of land use efficiency and the concept of agricultural sustainability as the practical implementation of sustainable growth in agriculture were investigated. Some characteristics of the current state of soils in the landscape zones of Zakarpattia were studied. It was stated that economic fertility of soils in various landscape zones of Zakarpattia shows non-linear dependence on the cost of growing crops. The dependence of soil saturation state on cost of growing main crops is revealed. In order to evaluate the application efficiency of agricultural land use in Zakarpattia a non-linear model of dependence of economic soil fertility on cost of growing crops is proposed. Evaluation of application efficiency of agricultural lands in Zakarpattia oblast in Ukraine for three landscape zones by conventional crops is performed. Growing crops and vegetables is recognized as profitable activity in lowlands of Zakarpattia oblast in Ukraine because of lower cost and a potential increase in soil fertility compared to piedmont and mountain landscape zones in the oblast under study. The most effective is growing potatoes in piedmont landscape zone of Zakarpattia oblast in Ukraine where the cost for growing potatoes is lower and the soil fertility is higher than in the lowlands and mountain zones of the oblast.Keywords: non-linear dependence, mathematical model, crops, economic fertility, efficiency, landscape zones, soils

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