

## THE IMPACT OF ENERGY ASPECTS ON THE CLIMATIC INDICATORS OF AGRICULTURAL PRODUCTS

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### ABSTRACT

For understanding the nature of soil processes, climatic indicators characterizing temperature conditions and moisture are of the greatest importance, since the water-temperature regime of soils and biological processes are closely related to them. Changes in energy costs for soil formation during the development of irrigation land reclamation are determined. The most favorable conditions for soil formation are created in the chernozem area. There was used multivariate nonlinear modeling of winter wheat yield using the piecewise linear regression method for three periods: dry, average, wet year. The analysis of research and building the models make it possible to quickly plan and forecast the yield formation. When forecasting the yield of winter wheat, it is possible to plan sown areas to ensure the planned gross harvest. According to the built statistical model, it was proved that the following factors influence the yield of winter wheat: sown area and average annual precipitation. As a conclusion, the obtained results determine the need and provide an opportunity to scientifically substantiate the zonal specifics of optimizing irrigation rates to help slow down the pace of soil degradation that have occurred up to now and to reduce excessive irrigation needs in accordance with the forecasted increase in climate energy to obtain stable crops.

**Keywords:** climate energy; energy costs for soil formation; productivity; harvest; agro-climatic indicator

**JEL Classification Codes:** F64, Q16, Q42, Q55

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