

SPATIAL VARIABILITY OF HYDROPHYSICAL SOIL PROPERTIES IN PLANT PRODUCTION PROCESS MODELLING

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The approach to taking into account the spatial variability of soil properties during decision making in adaptive landscape farming technologies has been presented. The approach is based on the quantitative indicators of plant production process (wheat crop), obtained by using a dynamic model of the production process of agricultural plants called "AGROTOOL". The studies were conducted in an environment of a special software package that is based on the integration of the dynamic model "AGROTOOL" and GIS. A scheme of the proposed approaches for the decision-making information support of the production management process has been presented. Computer simulations data are presented that allow identifying the conditions under which the existing variability of hydro-physical characteristics affects the plant production process or when this effect disappears.

Keywords: GIS, the dynamic model of the plant production process, hydro-physical properties of soil.