

## STRATEGICAL LEVEL IN PRECISION AGRICULTURE MANAGEMENT

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Based on the classical control theory of stochastic dynamic systems the problem of the chemical state of soils management in crop rotations was formulated and solved. The management is the optimal strategy for mineral fertilizer application for all the years of a crop rotation and a correctiv management for the first year of crop rotation (which takes into account the spatial inhomogeneity of the soil chemical properties). The novelty of the mathematical solution of the problem is application of the methodology and technology of precision farming, which allows to apply the results in practical agriculture.

**Keywords:** chemical state of the soil, chemical fertilizers and ameliorants, mathematical models of crop losses, the model dynamics of the state, the average risk optimality criterion, the strategy of chemical fertilizer application, management.