

## PREDICTION HUMUS LEVEL OF BLACK SOILS OF FOREST-STEPPE UKRAINE DEPENDING ON THE APPLICATION OF CROP ROTATION, FERTILIZATION AND TILLAGE

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### ABSTRACT

In the long residential field experiments revealed the dynamics of total long-humus black soil, depending on the recruitment and placement of crop rotation, tillage, fertilizer type and its dosage. Given the forecast changes to humus content in typical black soil humus under different farming systems main components by 2050. Done age excursion into the past and look to the future in the age cycle. The level of humus accumulation during the execution of various processing systems is most significantly changed in the first years after the beginning of the experiment, then the humus content is stabilized and changes very slowly with time as a result of the transition of humus formation to a quasi-equilibrium state with degradation phenomena. The use of various methods for treating chernozem of typical low-humus for 42 years only led to a delay in the processes of dehumification and to some extent stabilized the mineralization of humus, but did not contribute to its preservation and extended reproduction to the initial level at the time of the experiment. The increase in humus content occurs with respect to plowing and a control option without fertilizers. The increase in the content of total humus for simple and extended reproduction of humus in the secular cycle is equivalent to 20-25 tons per 1 ha and 30-33 tons per 1ha, respectively. To ensure established increases in humus, it is necessary to annually introduce manure 10-12 tons per 1 ha for simple and 14-15 tons per 1 ha of extended reproduction of the total humus content annually.

**Keywords:** humus, black soil typical, crop rotation, cultivation methods, tillage, manure, fertilizer, forecast, stationary experiment.