

KINETICS OF CATION DISPLACEMENT FROM SOD-PODZOLIC SOILS AND THEIR DEPOSITING ABILITY AS A CRITERION OF SOILS ACID-BASE STATE

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The kinetics of changes in pH, Eh and in the content of water-soluble Ca^{2+} , Mg^{2+} , K^{+} was studied in the sod-podzolic soils after interaction with water from 5 minutes to 5 days, and the deposition capacity was evaluated. The adequacy of the process description by 15 kinetics equations of pair correlation has been established. It was shown that the rates of the cations desorption from the soils was a characteristic index for different soil horizons and depended on the degree of hydromorphicity of the soils. It is proposed to take into account the kinetic parameters and the depositing capacity of soils to clarify the description of the acid-base state of the soils in seasonal dynamics. It has been established that the sod-podzolic soils of different degrees of hydromorphicity and the individual horizons of these soils differ significantly in the kinetics of the pH, Eh changes, in the content of water-soluble compounds Ca^{2+} , Mg^{2+} , K^{+} according to the depositing capacity of the soils to these cations. Such changes can affect the supply of soils with bioelements, the parameters of the acid-base state of soils. The change in pH, Eh, the displacement of Ca^{2+} , Mg^{2+} , K^{+} by water, the depositing ability of the soils to these cations should be taken into account for a more complete characterization of the acid-base state of the soils.

Key words: soil, fertility, kinetics, acid-base state, soil deposition capacity.