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Soil organic carbon stability of urban soils and of floodplain soils under different hydrothermal conditions

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Пожалуйста, вставьте свой абстрактный HTHigh anthropogenic impact and the rate of urbanization result in a decrease of urban soils' capacity to perform ecosystem services. Carbon sequestration is an important soil-based ecosystem service, which can be assessed through quantity and quality soil carbon stocks. The stability of soil organic matter (SOM) is characterized by the resistance of its constituent components to biological, chemical and physical destruction. In the study, SOME stability in peat-sand mixture used for urban soils' construction; floodplain soil was analyzed in response to temperature-moisture conditions. The decomposition rate of various soils was assessed. Decomposition was assessed through studying microbial production of CO2. In the research the CO2 emissions were studied under following temperatures and moisture conditions: temperature – 7°C, 22°C, 30°C and 40°C and moisture – 0.2 WHC, 0.4 WHC, 0.6 WHC, 0.8 WHC, 1 WHC. Moisture affects the amount and activity of microbial biomass, controls the availability of oxygen to microorganisms, causes periods of water microbial stress and also can destabilize organic matter, resulting in increased availability of carbon to soil microorganisms. Different patterns of moisture and temperature impacts on the soil organic carbon (SOC) decomposition rates were observed. It was concluded that, depending on the qualitative composition of carbon, the impact of hydrothermal conditions on the emission of carbon dioxide changed.ML здесь.