Project name: IRN AP14871144 "Development of technology for processing sewage sludge and "green" wastes of urban plantations into organic fertilizer using domestic biological products"

Relevance: The microbiological technology of waste processing will help to get rid of the dehydrated sludge from stench, heavy metals, pathogenic microflora, and increase the content of organic matter. To date, the development of domestic preparations based on effective microorganisms for the processing of sludge and urban green waste into organic fertilizer is relevant.

Purpose: To develop a technology for the integrated processing of sludge from the city water canal and urban "green" waste into organic fertilizer using new and domestic biopreparations of our own production. Create biopreparations based on strains isolated from silt sediments. Screening of biological preparations for the efficiency of processing a mixture of waste, studying the effect of fertilizers on the growth of ornamental plants and lawn crops.

Expected and achieved results:
for 2022: 45 new strains of microorganisms have been identified, which are common on waste from urban plantings and sewage sludge. Screening of new strains at various concentrations of sludge and plant residues was carried out, 20 most resistant strains were selected to create biological products used in the processing of sludge and "green" waste. The species composition of 18 isolated new strains of microorganisms was determined by sequencing the 16SrRNA locus. Biochemical properties were studied: cellulose-destroying, nitrogen-fixing, protease, catalase activity of the strains. Physiological properties studied: growth-stimulating activity, relation to pH, temperature, need for food sources.
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List of publications and patents published within the framework of this project: (with links to them): Bostubayeva M.B, Nauanova A.P. Mikroflora

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Information for potential users: no

Additional information: no