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STUDY OF MICROORGANISMS WITH A CAPACITY TO BIODEGRADE NON-RECYCLABLE PLASTIC WASTE

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Microbial communities resistant to differe unfavorable conditions can present many unig characteristics. Among a series of properties of soil microorganisms in different climatic zones, with different capacities to decompose plastic is mentioned more and more. It vas found thatwhen the plastic decomposes, dissolved organic carbon is released stimulating the activity of heterotrophic microbes.

Adaptation to new sources of organic carbon can create new characteristics of microorganisms, especiaiiy that produce active enzymes. Enzymes adapted to unfavorable conditions of microorganisms can offer numerous opportunities for biotechnological exploration and the creation of new ones for the degradation of non-recyclable plastic waste.

Trus, the potential of microorganisms from different conditions can be used in openoir waste deposits. Among the promin microbial agents used for degradation belonging to the following speciens *Pseudomonas, Agrobacterium, Streptomices, Corynebacterium, Arthrobacter, Micrococcus si Rhodococcus, Subtercola, Adreia, Leifsonia, Cryobacterium si Flavobacterium.*

The, study of the planned research is based on the elaboration of new ecological processes based on microorganisms far the biodegration of non-recyclable plastic waste.

Vegetational laboratory experiments are launched with the use of phytoremediator microorganisms in plastic polluting environmental conditions.

The abundance of microorganisms in ecosystems up to hundreds of millions of bacterial cells in one gram of sediment. Many assume that any surface in the polluting environments is colonized with macro and microorganisms. Bacterial colonization the plastic material begins almost immediately. In these stages, the microbial assemblies could catalyze the metabolic reactions that lead to the adsorption and fragmentation of the associated microplastic compounds. Basedon the study carried out, we can conclude that soil with a high microbial biodiversity can have a high biodegradation capacity of non-recyclable.

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