

ACCELERATED COMPOSTING OF PLASTICS BY ADDING MICROORGANISMS



Image. Isolated microorganisms PHB degraders. Degradation of PHB films is marked

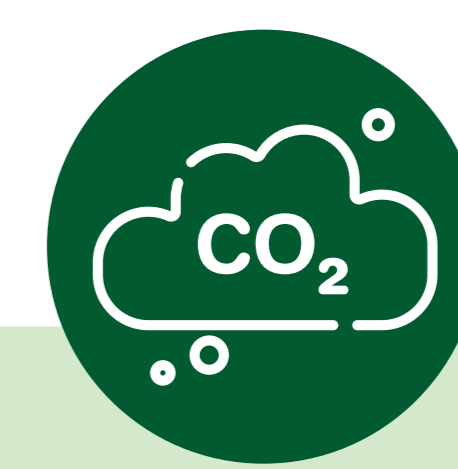
THE ISOLATED MICROORGANISMS ACCELERATE THE BIODEGRADATION OF PLASTIC UNDER COMPOSTING CONDITIONS



The main objective of the project is to accelerate the plastic biodegradation in a composting environment.



Next steps will include genome sequencing of isolated microorganisms and identification of genes responsible for polymer degradation. Samples of composting and biodegradation tests will be taken to study the gene expression at different times.



Microorganisms with high metabolic capacities for the degradation of selected polymers have been isolated from mature compost. The degradation will be monitored by **CO₂ evolution** and measuring the properties of polymers at different times.

A biobank with isolated microorganisms able to degrade different polymers and a procedure to enhance the degradation of polymers in composting conditions will be created. Composting will be bioaugmented by inoculating isolated microorganisms. Different inoculation procedures will be studied in order to maximize the biodegradation.