



SOLUTIONS FOR INDUSTRY

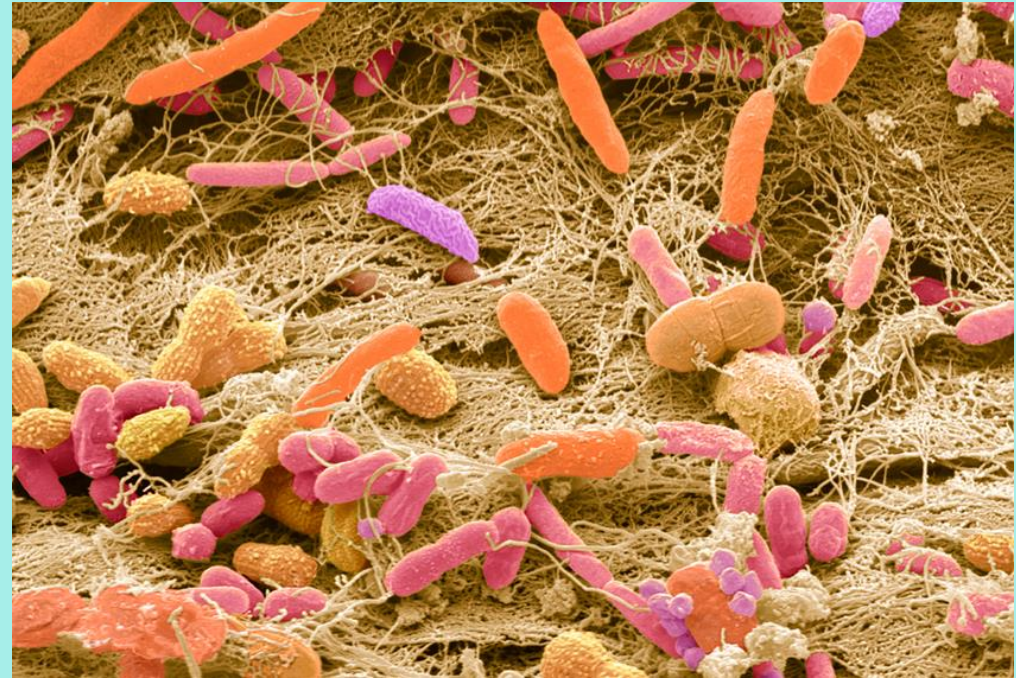
AMBIOGEL

compost accelerator

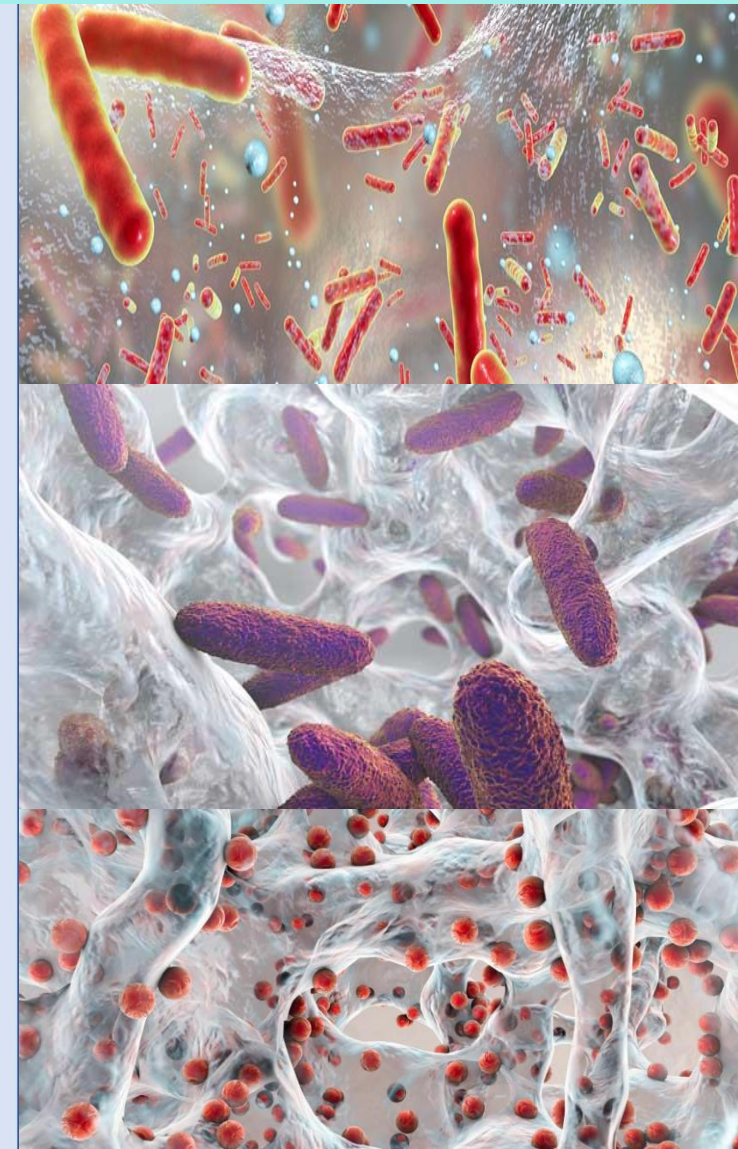
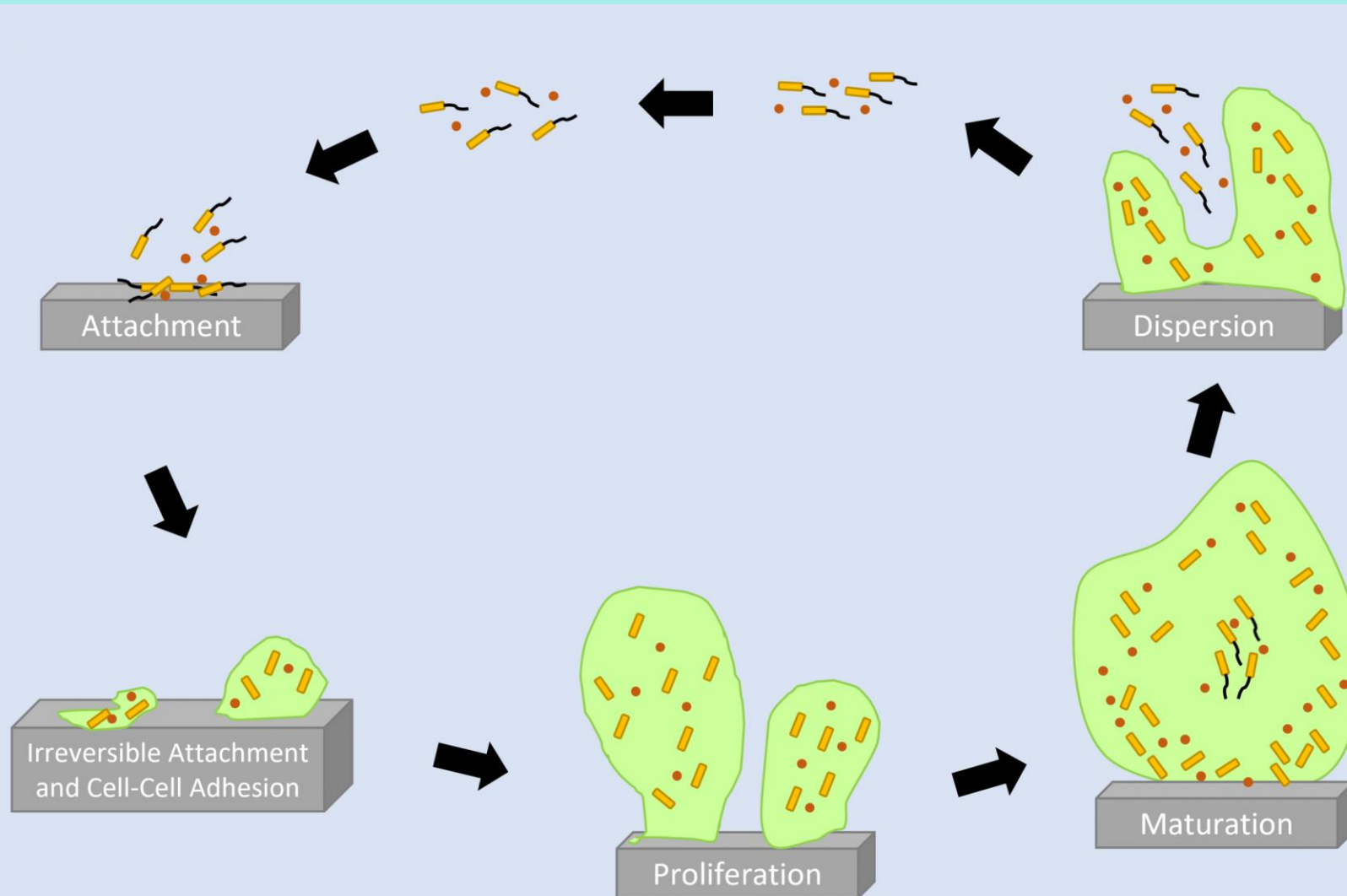


Significance of microbial composition to decomposition rate

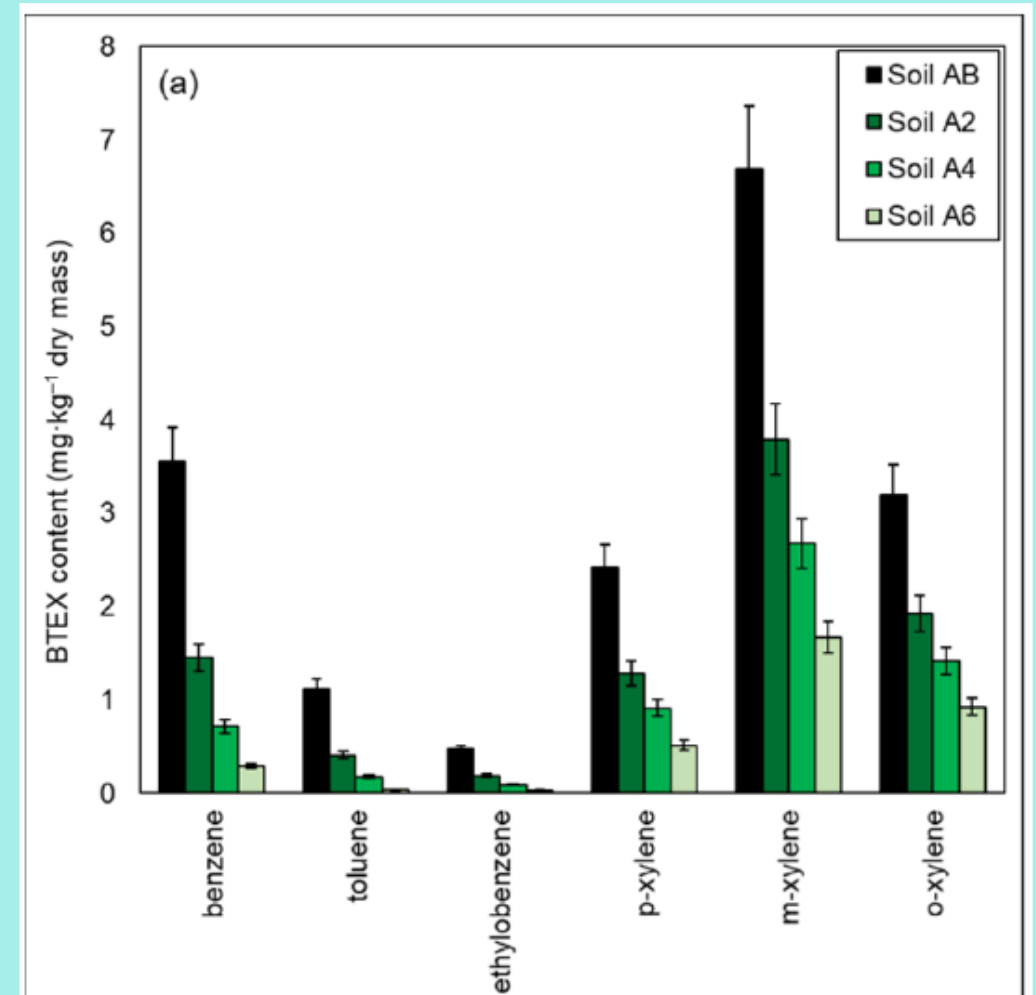
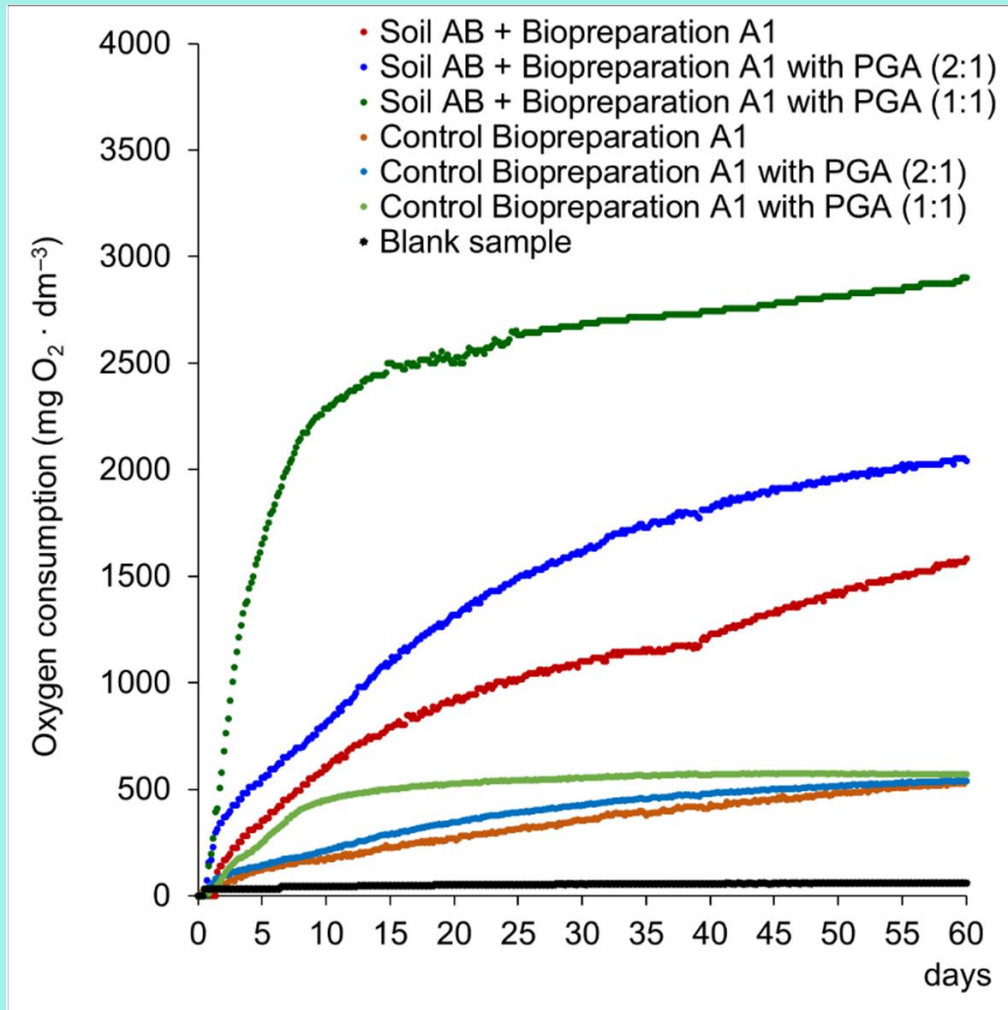
Microbial communities are the engines of decomposition, a fundamental process regulating the carbon cycle. In ecosystems, microbial decomposition converts detritus into CO_2 and releases nutrients for plant growth. While much is understood about how changes in abiotic conditions and substrate quality affect decomposition rates, the role of microbial community composition remains elusive.



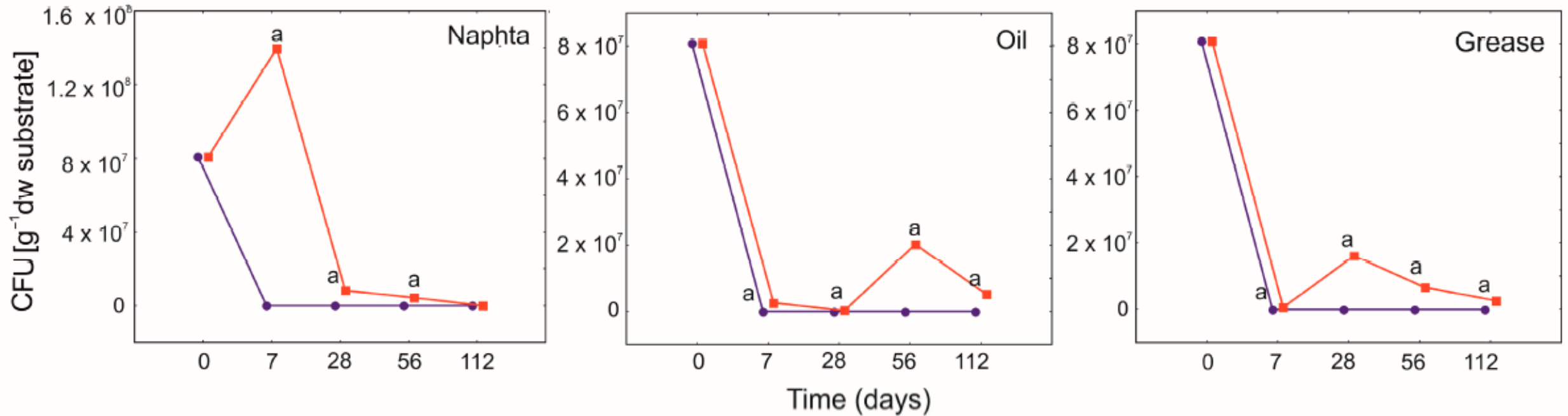
Microbial life cycle - significance of the biofilm



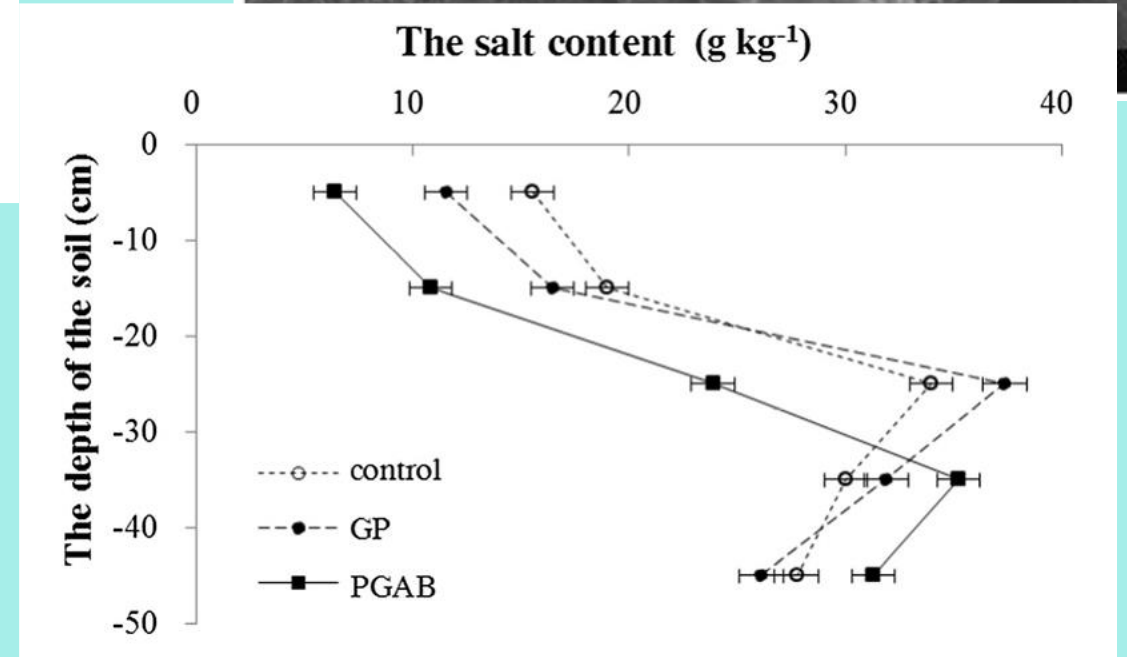
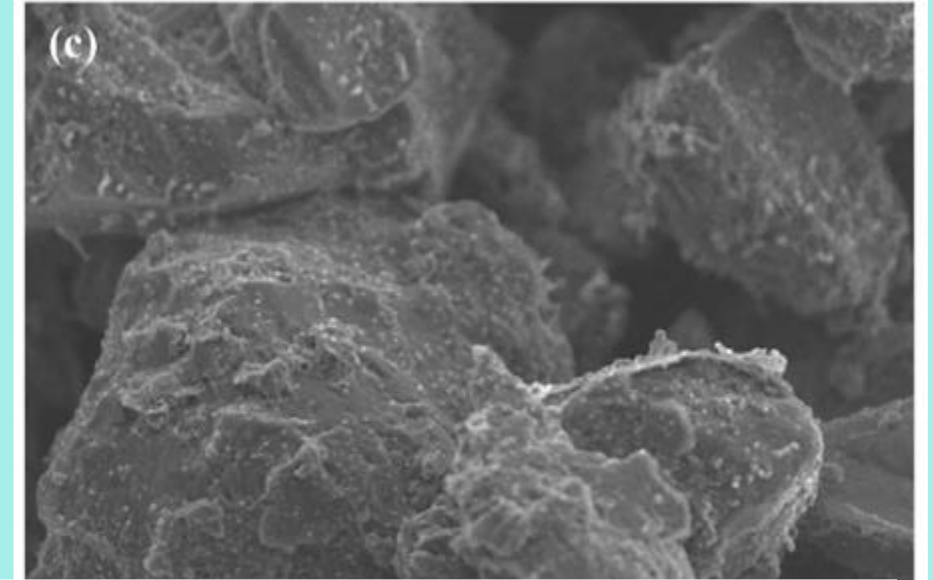
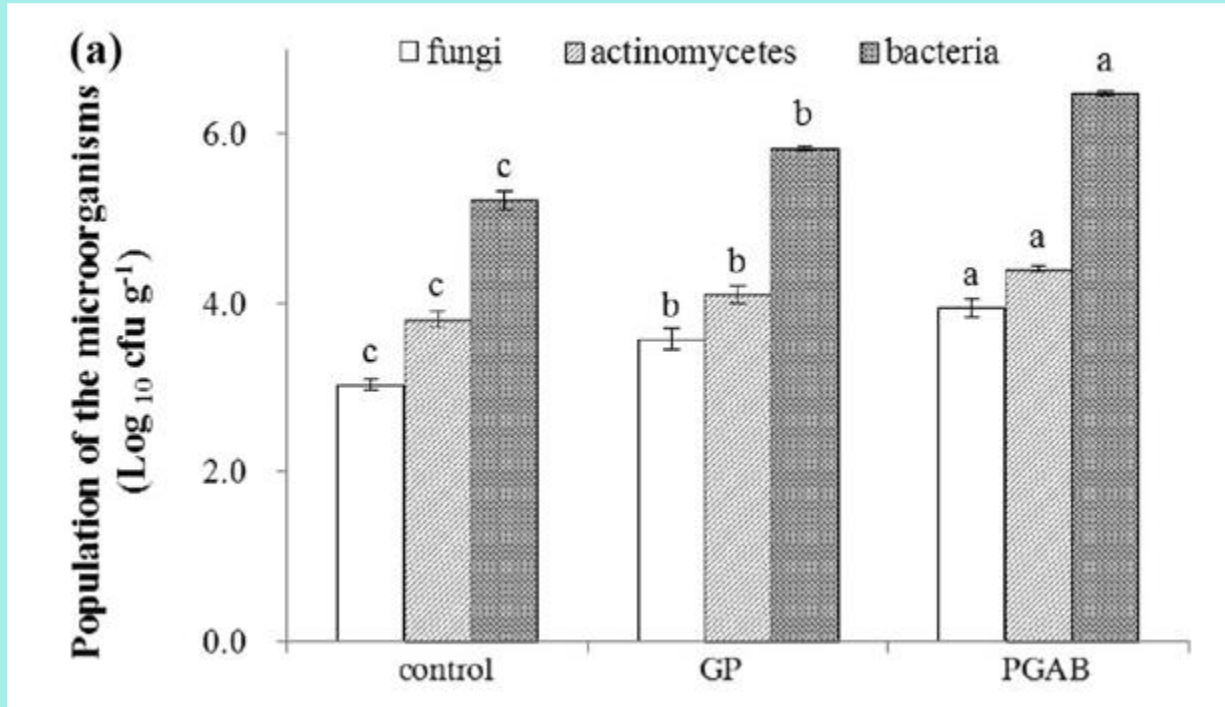
Properties of Ambiogel – stimulation of bacterial enzymatic activity and decomposition



Cytoprotection of bacterial strains



Even at high salinity level (59g/kg of soil)

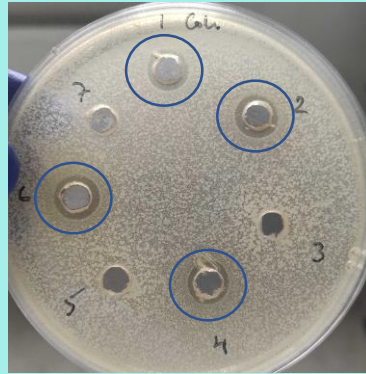


Antimicrobial activity of Ambiogel fractions

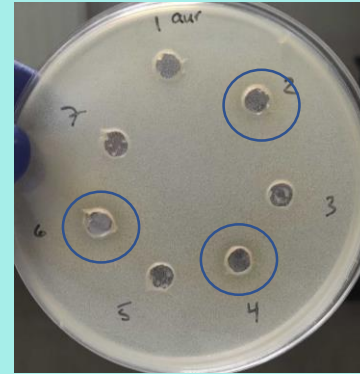
Regulation of bacterial composition



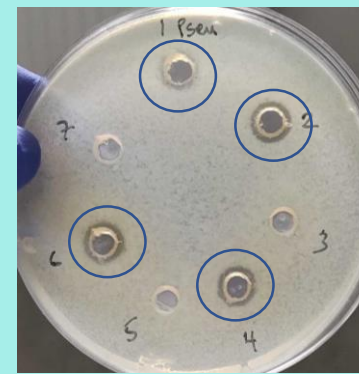
Staphylococcus epidermidis
(halos in wells 1, 2, 4 and 6)



Escherichia coli
(halos in wells 1, 2, 4 6)



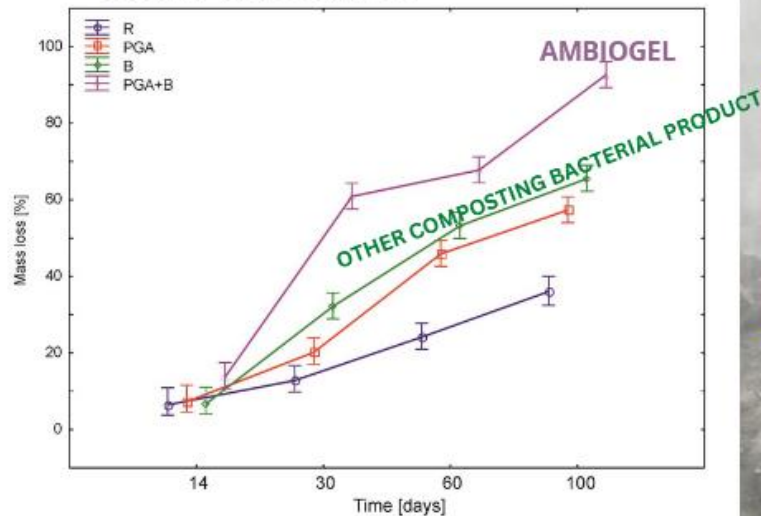
Staphylococcus aureus
(halos in 2, 4, 6)



Pseudomonas aeruginosa
(halos in 1,2,4, 6)

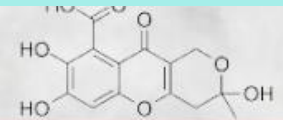
The effect of bacterial preparations on straw decomposition in laboratory conditions

STRAW WEIGHT LOSS



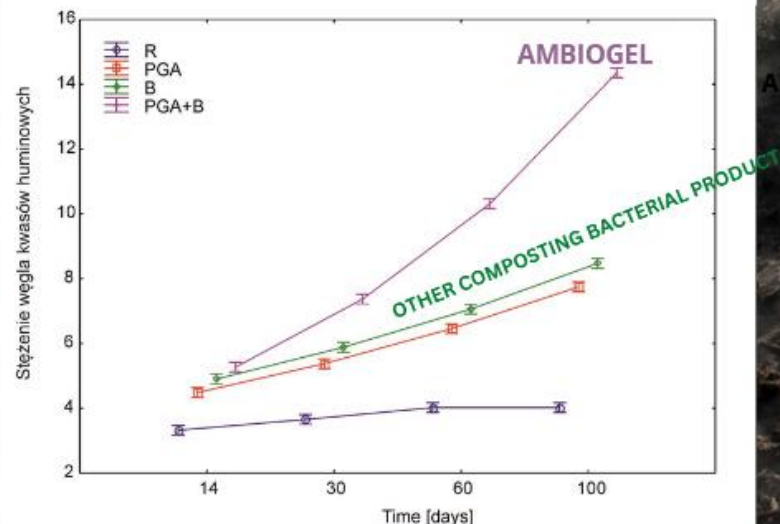
IN EXPERIMENT IT WAS OBSERVED:

- The bacterial preparation with the addition of γ -polyglutamic acid significantly increases the humification index. As this parameter increases, the quality of soluble forms of organic matter increases,
- Increase in total organic carbon, nitrogen, phosphorus and potassium in the soil,
- A significant increase in the concentration of soluble forms of carbon, which are more available to plants,
- Reducing the concentration of low-molecular-weight fulvic acids and humins in the soil and increasing the concentration of high-molecular-weight humic acids in the soil after using the preparation

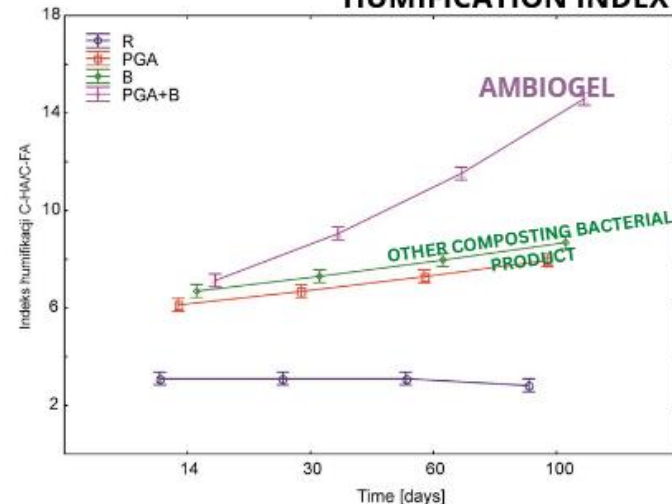


HIGH HUMIFICATION INDEX IN AGRICULTURAL SOILS MOST OFTEN ASSOCIATED IS ORGANIC FERTILIZATION AND/OR HIGH MICROBIOLOGICAL ACTIVITY.

HUMIC ACIDS

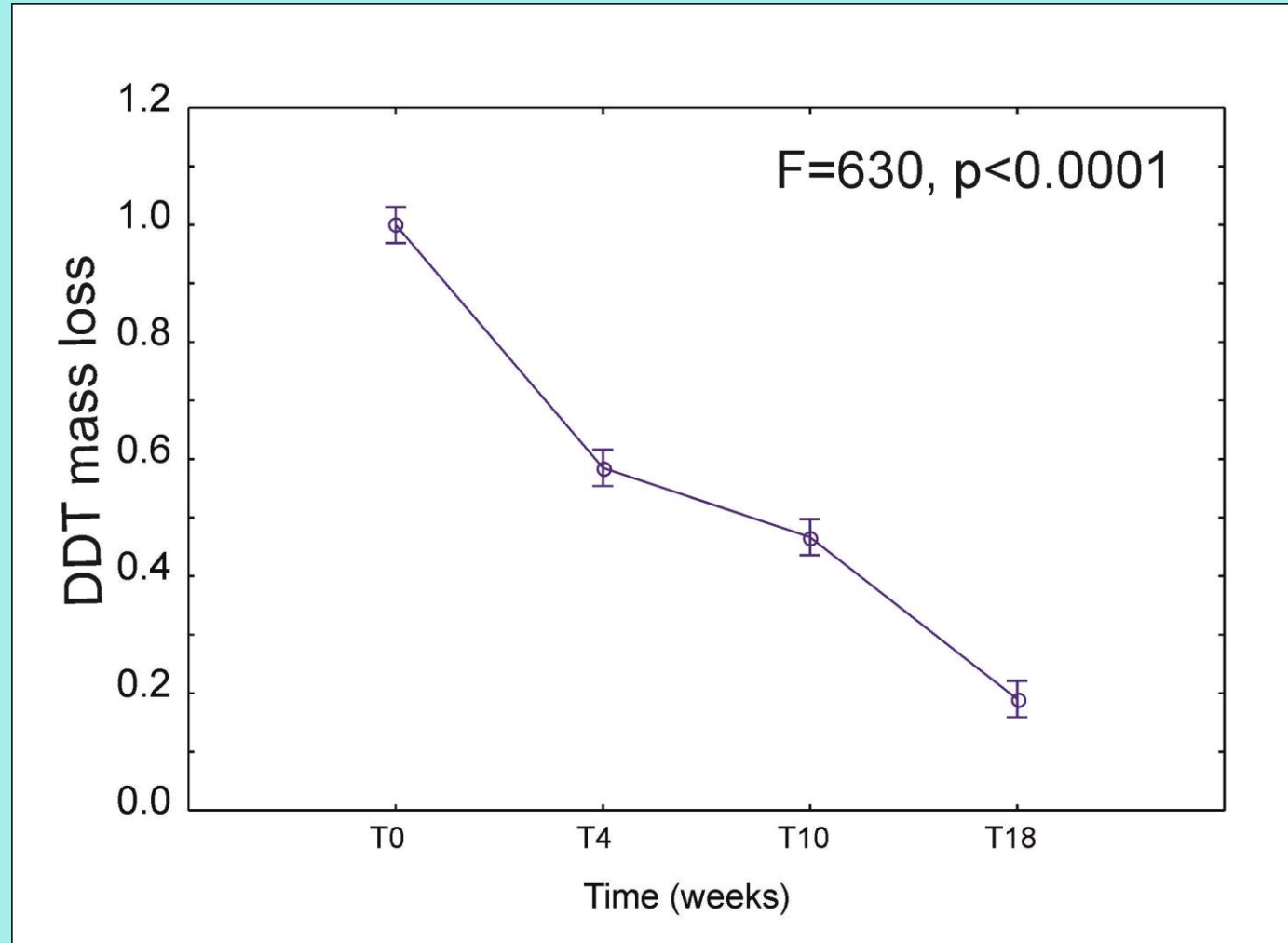


HUMIFICATION INDEX



As this parameter increases, the quality of soluble forms of organic matter increases. FA and HA are the main source of soluble forms of carbon and nitrogen, responsible for the transport of nutrients in the soil-plant system. FA are low molecular, aliphatic organic compounds with much higher mobility and accessibility to microorganisms than HA. HA are aromatic-aliphatic compounds with much larger structures and, therefore, a much higher sorption capacity in relation to macro and micronutrients. $HA+FA>1$ mainly indicate the ongoing processes of humification of organic matter

Ambiogel biopreparation enhances the pesticide biodegradation



INDUSTRIAL COMPOSTING ACTIVATOR



A concentrate of live bacteria with their metabolites activating the process of industrial composting of organic waste. It is intended for composting:

- urban organic waste,
- sewage sludge from sewage treatment plants,
- organic waste from the agri-food industry,
- organic waste in landfills.

*REDUCTION OF VOLATILE COMPOUNDS

*DOI:10.13140/2.1.3560.5765

reduction H_2S : **62.8%** after 11 days

reduction (NH_4^+-N) : **78.7%** after 2 days

reduction VFAS **48.6%**: after 11 days



To ensure the proper course of the process, it is recommended to prepare a compost mixture in the following proportions:

C (organic carbon) : N (nitrogen) = (17 : 35) : 1

C (organic carbon) : P (PHOSPHORUS) = 100 : 1

An example of a compost mixture that qualifies the above condition:

- 1 volume part – industrial waste,
- 1 volume part – sewage sludge,
- 1 volume part – structural material (e.g. soil from excavations, tree cuttings, bark, straw, leaves, mown grass).



Recommended dose

Shake the bottle before opening.

Use 10 liters per 1000 m³ of organic waste. The agent can be used by preparing a suspension and spraying. The compost should be turned over and thoroughly moistened every few weeks.

DOES NOT CONTAIN PATHOGENIC MICROORGANISMS OR TOXIC COMPOUNDS HARMFUL TO HUMANS, ANIMALS AND THE NATURAL ENVIRONMENT. KEEP OUT OF REACH OF CHILDREN IN A DRY AND COOL PLACE.

Available packaging: 30L and 1000L

Ambiogel benefits

- It controls the biofermentations and stimulates humification processes
- Neutralizes unpleasant odors
- Reduces the maturation time of compost (up to 30%), indirectly affects the reduction of energy expenditure related to the operation of INDUSTRIAL equipment
- Eliminates bothersome odors such as hydrogen sulfide, ammonia and low chains fatty acids
- Reduces the toxic pesticides and postindustrial hydrocarbon based wastes