ANALYSIS OF SUPPORT MEDIA IN PACKAGED BIOREACTORS FOR LANDFILL LEACHATE TREATMENT SYSTEMS

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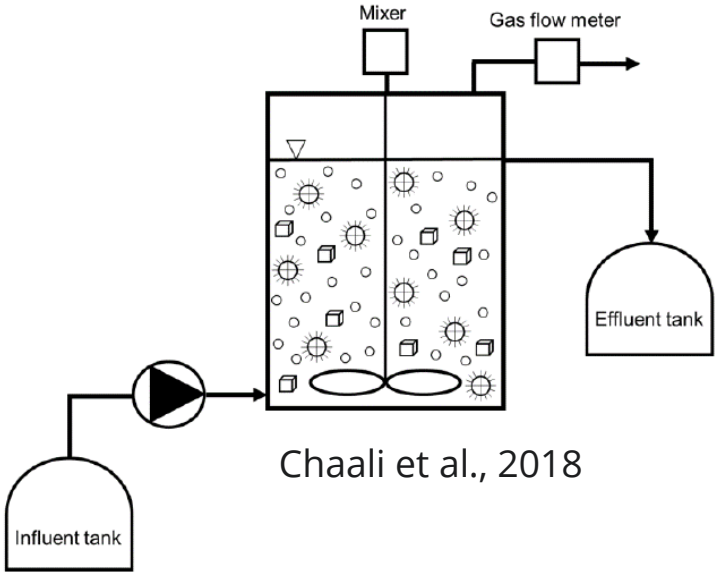
Addressing the solid waste generation problem is a global priority

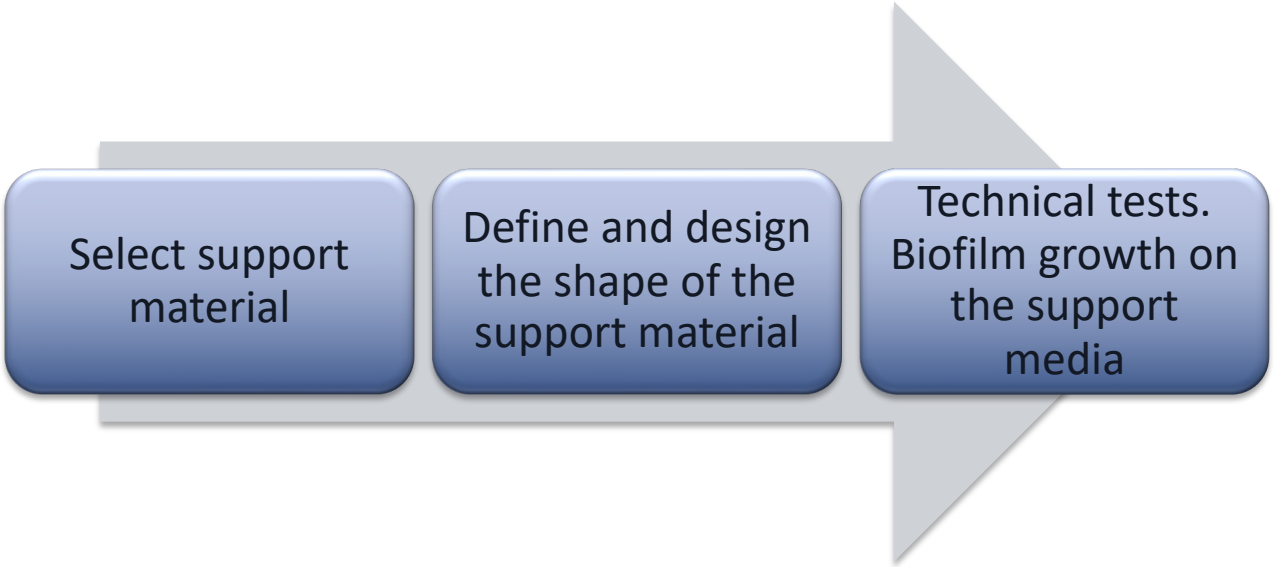
One of the primary environmental problems connected to the growth of cities is the proportional increase in solid waste which generates leachate as a result of its final disposal in sanitary landfills.

One technology for leachate treatment is installing **biofilm anaerobic biological reactors**, in which microorganisms take charge of degrading organic matter, which minimizes the pollutant load of the leachate.

Variables such as pH, temperature, retention time and the support media where the biofilm will be formed must be considered, in addition to its design and ***the material of which it is made.***



Chaali et al., 2018

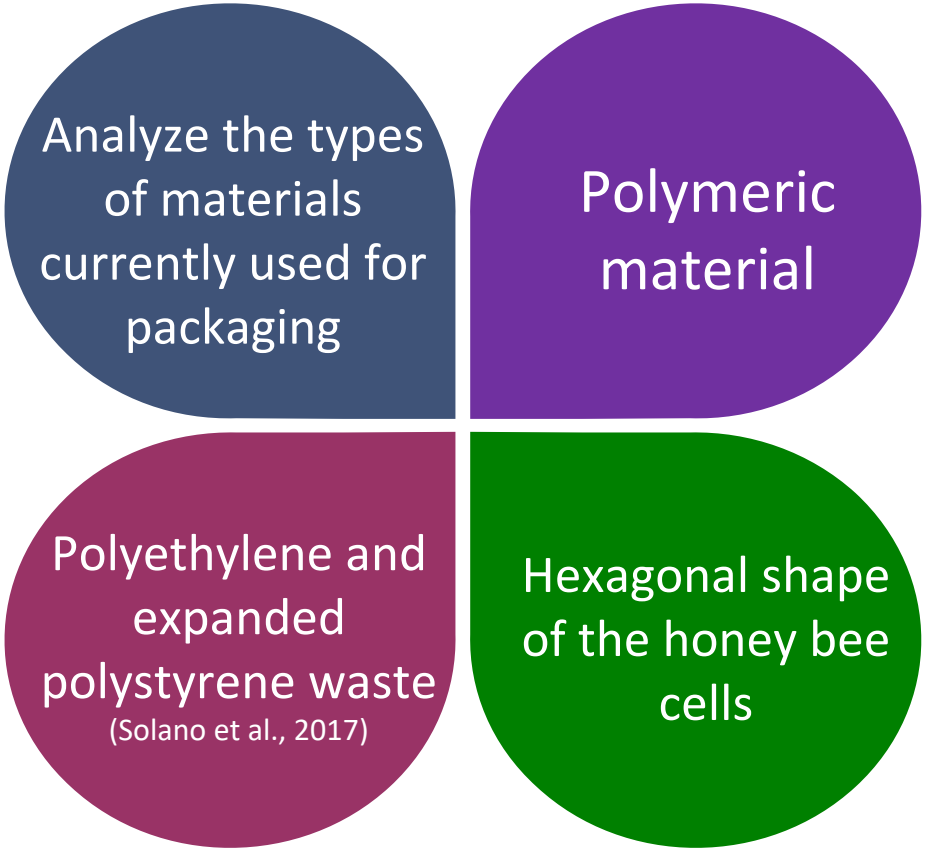


The support media is one of the most important factors in anaerobic biofilm reactors, given its function of creating the surface where the microorganisms adhere and form the biofilm

Plastic solid waste support media for bioreactors.

Leachate treatment.

Explore different designs for the support media.


Analyze the types of materials currently used for packaging
Polymeric material
Polyethylene and expanded polystyrene waste
(Solano et al., 2017)
Hexagonal shape of the honey bee cells

These strategies focus on incorporating waste materials into the production cycle, aiming to support circular economy policies adapted to the global level.

An alternative within the contribution of the activities put forth by these policies is the search for secondary uses for solid waste to produce innovative materials that can be suitable substitutes for virgin raw materials.

Optimal conditions are sought to develop this technology in order to achieve the highest efficiency for this type of bioreactor and to valorize plastic solid waste.

References

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Thank you

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