

Development of biodegradable mulching films containing biobased fertilizers.

Emmanuel Duquesne

CE-BIOTEC-05-2019: Microorganism communities for plastics bio-degradation (RIA)

INTERNATIONALLY RECOGNISED EXPERTISE

- **Innovative and Sustainable Polymeric Materials**
 - Synthesis and formulation of polymeric compositions
 - Polycondensation, Polymer blending and compatibilization
 - Reactive extrusion and dry mixing technologies, Nanocomposites processing
 - Materials characterization (thermal, mechanical, electrical, fire resistance, anti-bacterial, barrier, ...)
- **Cells for Materials and Materials for Cells**
 - Fermentation & Biocatalysis (Building blocks, high added-value molecules,...)
 - Antifouling & Antimicrobial (Development and testing)
 - Biomass (Biopolymers, catalysis, bioactive oligosaccharides production, ...)

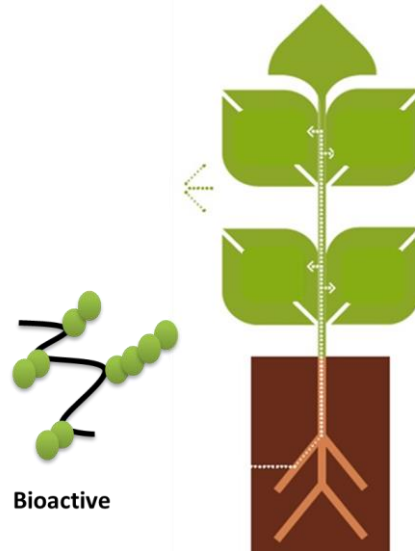
PAST EXPERIENCE IN EU-FUNDED PROJECTS

- ECLIPSE
- POCO
- INNOREX
- CAPDESIGN
- FP7
- Cornets
- Bewares

InnoREX



- Development of a combination of Biobased Fertilizers to match the plants' need over time



Enhanced stress tolerance

After 7 days under drought stress



1 day after re-watering



water deficit

salinity

Low temperature

UV radiation

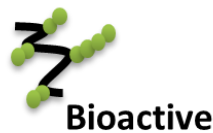
Heavy metals exposure

- Preparation of biodegradable formulations with controlled-release fertiliser technique

PBAT


PLA PCL

Starch



Consortium

Known partners / Competence offer

Name	Type	Country	Role in the project
Materia Nova	R&D center	Belgium	Preparation, compatibilisation and characterization of polymer formulation and biostimulants
	Industry	Belgium	Development and production of plant biostimulants
			Mulch Film Manufacturer, Compounder, biofertilizer development, ...

Partner search

Profile	Type	Country	Role in the project
	End-users		Upscaling, Mulch film preparation, biofertilizer development, ...

COORDINATOR



Contact details

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Thank you for your kind attention!

3D-printed polymer materials with enhanced mechanical properties DT-NMBP-19-2019:
Advanced materials for additive manufacturing

*Other
proposals*

Energy Management with Functional Surfaces
3.1. SUSTAINABLE PROCESS INDUSTRY (SPIRE): CE-SPIRE-02-2018 and
CE-SPIRE-03-2018