

INSOIL

Safe bio-based and
biodegradable IN-SOIL
solutions for circular and
sustainable crop production



Duration:

June 2025 – May 2029



Objective:

Develop, deploy, and validate three families of bio-based, in-soil biodegradable agriproducts



Goal:

Replace widespread single-use agricultural plastics



Applications:

Mulch films, plant guards, controlled release fertilizers

INSOIL tackles agricultural plastic pollution by developing three families of fully bio-based, safe in-soil biodegradable products in the form of mulch films, plant guards and controlled-release fertilisers (CRFs). These three product families will be based on sustainable PHA combined with tailored additives (MFCs, modified lignins), enabling for programmed biodegradation suited to specific climates and crops. They will be enriched with active bioproducts (organic NPK, biostimulants, bio-based PPPs) to enhance functionality, value and adoption. INSOIL agriproducts will be field validated with end users (TRL8) in Southern and Northern Europe. SSbD experts will ensure compliance, policy recommendation will advance relevant regulations and standards, and circular business models will secure market acceptance.



Circular
Bio-based
Europe
Joint Undertaking



Bio-based Industries
Consortium



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INSOIL

Coordinator: INSTITUTO TECNOLÓGICO DEL EMBALAJE,
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