Crop production

SUPERFOOD BIOTECH

Developing bio-enriched superfoods on the farm through agronomic methods.Implementation of biotechnological solution microalgae-microorganism consortia

Beneficiary members

- Asociación Agraria de Jóvenes Agricultores (ASAJA)
- Instituto Agroquímica y Tecnología de Alimentos (IATA-CSIC)
- Innoplant Tecnología e Investigación Agrícola S.L.
- Asociación Española para la Transferencia Técnica y Tecnológica a la Agricultura y la Ganadería (ASETAGA)
- Agroisa S.L.
- AMC Innova Juice and Drinks S.L.

Subcontracted members

- Fruit Tech Natural S.A.
- Arosa Investigación y Desarrollo S.L.

CALL 2022

THEMATIC AREA: Crop production / **SUBSECTOR:** Vegetables

AUTONOMOUS COMMUNITIES EXECUTION: Andalusia, Aragon, Castile La Mancha, Chartered Community of Navarre, Extremadura, Region of Murcia, Valencian Community

GRANT AWARDED: € 593.713,06

PROJECT OPERATING PERIOD: June 2022-March 2025

MORE INFORMATION:
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Summary

SUPERFOOD BIOTECH promotes the symbiosis between soil and plants, aiming to discover fertilisation formulas that enhance the high-value minerals and micronutrients of crops in the field.

PROJECT OBJECTIVES	EXPECTED RESULTS
Develop a new category of superfoods that increase levels of biohealthy micronutrients.	A viable option for Spanish fruit and vegetable producers is to expand into a new product category with high added value that caters to consumer needs.
Conducting experiments at 3 fruit and vegetable fields to demonstrate the proposed solution's technical and economic feasibility.	Direct study of technical-economic validation by using micro-organism-microalgae consortia on the farm to generate 3Ms (Minerals + Microorganisms + Organic Matter) and obtain bio-enriched fruit and vegetable products in high concentrations.
Demonstrate that the project proposal achieves reductions in water and electrical energy consumption to enhance production quality and add value.	Quantifying the reduction of electricity and water consumption during soil regeneration processes using the 3Ms method and in the production of fruit and vegetable superfoods.
Characterise the products made in the factory (fruit juices and food products) and the subproducts and derived residues (SDRs) produced during the manufacturing of Superfood Biotech products which are highly enriched with bioactive compounds.	Identification of fresh bio-enriched product transformation and evaluation of using SDRs from on-farm industrial transformations, as input for FMC (micro-organism-microalgae consortia) culture tanks.
Demonstrate quantitatively the actual reduction of CO2 emissions, bio-economic impact, job creation and sustainability in the production processes of biofertilisers (3Ms).	Reduction greenhouse gas emissions, conduct a comprehensive study on the bio-economic impact, and choose projects supported by young people and women in rural areas to establish bio-enriched fruit and vegetable production enterprises.