



## SOIL CHALLENGES AND SOLUTIONS IN THE REGION OF MURCIA

### EU PROJECTS CONTRIBUTION

#### LIFE AMDRY

- **CLIMATE CHANGE ADAPTATION OF DRYLAND AGRICULTURAL SYSTEMS IN THE MEDITERRANEAN AREA**
- **Objective / Challenge:** demonstrative project with innovative character, which presents a new approach to promote natural solutions for the adaptation to climate change of dryland agricultural systems in the Mediterranean area. The main objective is the promotion of resilience to dryland agriculture climate in Mediterranean areas and its sustainable, intelligent and integrated management, as a basic tool for adapting to climate change based on ecosystems (EbA) and strengthening its mitigating role as carbon sinks, so that they are sustainable and persistent.
- **Partners:** University of Murcia, Region of Murcia, COAG, Nueva Cultura por el Clima, Ingeniería del Entorno Natural
- **EU Programme:** LIFE Programme, Climate Action subprogram
- **Budget:** Total - 1.863.729 € - 60% EU – Cofinancing – 1.118.166 €
- **Calendar:** 01/09/2017 – 31/12/2022
- **Key words:** agriculture, climate change adaptation, carbon farming, mediterranean
- **Website:** <https://lifeamdryc4.eu/en/>



#### LIFE AGREM SOIL

- **Agrochemical remediation in farm soils combines new innovative techniques**
- **Objective / Challenge:** The project aims to develop new innovative technology, at a large farm-scale, using agrochemical remediation in farm soils by combining solarization and ozonation in situ. This innovative solution involves building new technological applications (giant equipment) and using methods that advance oxidation processes, which are called ozonation and H<sub>2</sub>O<sub>2</sub>; or solarization. As there is currently no machine in existence that uses these techniques, the project will build a prototype machine to



test and demonstrate the technical, economical, and ecological feasibility of the innovation at an existing farm in Murcia, Spain. The project provides a new cost-effective solution for this ongoing, silent problem while supporting the soil's true function as part of the wider ecosystem positively impacting the feed and food products produced, which have consequent effects on human health. The project also plans to integrate into its work Common Agriculture Policy's environmental objectives and promote EU agriculture and environmental policies.

- **Partners:** IMIDA, CSIC, IDConsortium S.L., Novedades Agrícolas S.A.
- **EU Programme:** LIFE
- **Budget:** Total: 2,221,241 € - EU Contribution: 1,332,724 €
- **Calendar:** 01/07/2018 - 31/12/2022
- **Website:** <https://agremso3il.eu/>



## LIFE SALINAS

- **CONSERVACION DE LOS HABITATS Y AVES ACUATICAS EN EL LIC Y ZEPA ES0000175 -SALINAS Y ARENALES DE SAN PEDRO DEL PINATAR**
- **Objective / Challenge:** The Project is based on sustainable development, as it improves the conservation of both the priority fauna species and the habitats in the European Union and enhances the ecosystem services by increasing the production and the improvement of the salt quality.
- **Partners:** University of Murcia, Salinera Española, S.A., Asociación de Naturalistas del Sureste (ANSE), DG Medio Natural CARM, Mãe d'água, Lda., Ayuntamiento de San Pedro del Pinatar.
- **EU Programme:** LIFE Programme, Environment subprogramme
- **Budget:** Total – 1.790.845 € - 55% EU – Cofinancing – 1.002.618 €
- **Calendar:** 01/09/2018-30/09/2022
- **Website:** <https://lifesalinas.es/>





## LIFE AQUEMFREE

- **IN-FARM REMEDIATION BY SOLAR PHOTOCATALYSIS OF AGRO-WASTE WATER WITH PESTICIDES FROM REMNANTS, CLEANING AND RINSE BY SOLAR PHOTOCATALYSIS**
- **Objective / Challenge:** Development of a system to decontaminate water from washing of containers and phytosanitary treatments equipment by solar photocatalysis.
- **Partners:** Murcia Institute of AgriFood Research and Development (IMIDA), University of Murcia, NASA-Novedades Agrícolas S.A., The Federation of Agricultural Cooperatives of Murcia (FECOAM)
- **EU Programme:** LIFE Programme, Environment subprogramme
- **Budget:** Total – 1.863.566 € - 50% EU – Cofinancing – 911.356 €
- **Calendar:** 01/07/2014 – 30/06/2018
- **Website:** <https://www.life-aquemfree.eu>



## LIFE DRAINUSE

- **RE-UTILIZATION OF DRAINAGE SOLUTION FROM SOILLESS CULTURE IN PROTECTED AGRICULTURE. FROM OPEN TO CLOSE SYSTEM**
- **Objective / Challenge:** - To demonstrate through the design, construction and set up of a full re-circulation pilot system the technological possibility for Euro-Mediterranean regions of drainage reuse. The pilot system will be assayed in tomato plants, one of the most economically important and extended crop in south Europe. The pilot system proposed here will be able to collect the drainages coming from the normal irrigation of the tomato plantation, to disinfect them and to adjust the nutrient concentration, pH and electrical conductivity with the purpose of making drainages re-usable for a new irrigation cycle. - To propose a legal and regulatory framework for drainage recirculation to Euro-Mediterranean regulatory bodies.- To disseminate to all interested stakeholders, the benefits of full recirculation systems as an environmental friendly solution for drainage release of hydroponic greenhouses.
- **Partners:** University of Murcia, CEBAS-CSIC, RITEC - Riegos y Tecnología S.L, The Federation of Agricultural Cooperatives of Murcia (FECOAM)
- **EU Programme:** LIFE Programme, Environment subprogramme



- **Budget:** Total – 993.596,00 €
- **Calendar:** 01/09/2015 – 31/12/2018
- **Website:** <http://www.drainuse.eu/>



## DEMETER

- **BUILDING AN INTEROPERABLE, DATA-DRIVEN, INNOVATIVE AND SUSTAINABLE EUROPEAN AGRI-FOOD SECTOR**
- **Objective / Challenge:** A top goal for the EU is to support sustainable agriculture and food production, protect natural resources and boost food safety. Smart farming via GPS, soil scanning, data management, and IoT technologies could help attain the EU goal of ameliorating the quantity and quality of farming production. The EU-funded DEMETER is a large-scale project deployed in 18 countries, 15 of which are EU member states. The project will analyse data obtained from a wide range of actors (production sectors and systems) to provide an integrated interoperable data model enabling optimal resource management in the European agri-food sector.
- **Partners:** University of Murcia + 65 others
- **EU Programme:** Horizon 2020
- **Budget:** Total – 17 559 006,22 €
- **Calendar:** 01/09/2019 – 31/08/2023
- **Website:** <https://h2020-demeter.eu/>



## WATERMED 4.0

- **EFFICIENT USE AND MANAGEMENT OF CONVENTIONAL AND NON-CONVENTIONAL WATER RESOURCES THROUGH SMART TECHNOLOGIES APPLIED TO IMPROVE THE QUALITY AND SAFETY OF MEDITERRANEAN AGRICULTURE IN SEMI-ARID AREAS**
- **Objective / Challenge:** The objective of WATERMED 4.0 is to develop and to apply an integrated decision support system based on the Internet of Things, for managing the



whole water cycle in agriculture, monitoring water resources (conventional and non-conventional) and water demands including the measure of economic, energy, social and governance factors that influence the water use efficiency in Mediterranean agricultural production areas.

- **Partners:** University of Murcia, ARVUM Agriculture & Technological Services S.L., CBU-Central board of users of Vinalopó basin, l'alacantí and water consortium of low, CEBAS\_CSIC, Fraunhofer Gesellschaft zur Foerderung der Angewandten Forschung E.V., Turkish Water Institute (SUEN), University of Djilali Bounaama Khemis Miliana, University Oran1 - Ahmed Ben Bella
- **EU Programme:** PRIMA (Section 1)
- **Budget:** Total – 1.862.042,50 €
- **Calendar:** 01/09/2019 – 31/08/2023
- **Website:** <https://www.watermed-project.eu/>



## CREDIBLE

- **CREDIBLE. Building momentum and trust to achieve credible soil carbon farming in the EU.**
- **Objective / Challenge:** Build momentum and trust for the implementation of carbon farming in the EU. This will be primarily achieved by setting up and moderating a network of initiatives/projects/stakeholders, for favouring transparency, environmental integrity, and methodology standardisation in soil carbon accounting. This NoN (network of networks) aims to support the European Commission and the Expert Group on Carbon Removal in identifying and scaling up solutions for soil carbon farming.
- **Partners :** [Soluciones Agrícolas Ecoinnovadoras \(SAE\)](#) (Coordinator), Association des Chambres d'agriculture de l'Arc atlantique (AC3A), University of Geifswald, European Association of Remote Sensing Companies (EARSC), Helmholtz Centre for Environmental Research (UFZ), Centro De Investigación Ecológica y Aplicaciones Forestales (CREAF), Cooperativas Agro-alimentarias de España (COOP), Baltic Sea Action Group (BSAG), European Environmental Bureau (EEB), Bioeconomy Cluster of Slovakia, EIT Climate-KIC (CKIC), University of Helsinki, AgroApps, Flanders Research Institute for Agriculture, Fisheries and Food (ILVO), ELGO-DIMITRA Soil and Water Resources Institute, Ecologic Institute and Università Cattolica del Sacro Cuore. The consortium also collaborates with the Institute for Climate Economics, the Italian Council



for Agricultural Research and Economic Analysis and the European Conservation Agriculture Federation.

- **EU Programme:** Horizon Europe. EU Soil Mission
- **Budget:** Total € 3 067 095,00 – 100% EU Funding € 3 067 095,00
- **Calendar:** 01/06/2023 – 31/05/2026
- **Key words:** Climate change mitigation, Soil Carbon Capture and Storage (CCS), Nature-Based Solution
- **Website:** <https://www.project-credible.eu/>



## BIOSERVICES

- **LINKING SOIL BIODIVERSITY AND ECOSYSTEM FUNCTIONS AND SERVICES IN DIFFERENT LAND USES: FROM THE IDENTIFICATION OF DRIVERS, PRESSURES AND CLIMATE CHANGE RESILIENCE TO THEIR ECONOMIC VALUATION** ([ficha cordis](#))
- **Objective / Challenge:** The initiative seeks to understand the interconnectedness between soil organisms (viruses, bacteria, archaea, fungi, protists, nematodes, microarthropods, earthworms, isopods, millipedes, insects and spiders) and the provision of multiple ecosystem functions and services, millipedes, insects, and spiders) and the provision of multiple soil ecosystem functions and services at different scales (field at different scales (field versus landscape), identifying the pressures and drivers resulting from different and drivers resulting from different land uses and climate change, and conducting an economic valuation of the contribution economic valuation of the contribution of soil organisms to ecosystem services.
- **Partners:** Universidad Politécnica de Cartagena (coordinator), Universidad de Vigo, LGI Sustainable Innovation, Eigen Vermogen Van Het Instituut Voor Landbouw- En Visserijonderzoek, Johann Heinrich Von Thuenen-Institut, Bundesforschungsinstitut Fuer Laendliche Raeume, Wald Und Fischerei, Consiglio Per La Ricerca In Agricoltura E L'analisi Dell'economia Agraria, Zabala Innovation Consulting SA, Fondazione Centro Euro-Mediterraneosui Cambiamenti Climatici, Agencia Estatal Consejo Superior De Investigaciones Cientificas, Technische Universitaet Muenchen, Wageningen University, Latvijas Valsts Mezzinatnes Instituts Silava, Universita Degli Studi Della Tuscia, June Communications SRL, Soluciones Agricolas Cultivate SL, Fundacion Juana De Vega, Flachenagentur Rheinland Gmbh, Sia Rigas Mezi. Partner asociados: Forschungsinstitut



Fur Biologischen Landbau Stiftung, Arizona Board of Regents for and on behalf of Northern Arizona University, SRUC, The University Of Sussex

- **EU Programme:** Horizon Europe programme, Soil Mission
- **Budget:** Total € 7 398 540,00 – 100% EU - EU Contribution: € 7 398 540,00
- **Calendar:** 01/09/2023 - 31/08/2028
- **Key words:** land uses, pressures, climate change adaptation, soil functions, economic valuation, incentives, stakeholders engagement
- **Website:** <https://x.com/bioserviceseu?s=20>



## SoildiverAgro

- **SOIL BIODIVERSITY ENHANCEMENT IN EUROPEAN AGROECOSYSTEMS TO PROMOTE THEIR STABILITY AND RESILIENCE BY EXTERNAL INPUTS REDUCTION AND CROP PERFORMANCE INCREASE** ([Cordis](#))
- **Objective / Challenge:** Soil biodiversity and associated ecosystem services may result in crop production and quality increases. EU policies encourage management practices and production systems that ensure agricultural stability, resilience and growth. The EU-funded SoildiverAgro project aims to propose new practices increasing quality and production of crops while reducing external inputs. SoildiverAgro will be deployed in nine European regions using advanced management practices based on mycorrhiza and plant growth promoting bacteria, appropriate management of soil organisms, suitable crop rotations and intercropping, pest alert systems, nutrient catch crops, trap crops for pest control, by-products as soil ameliorants and adequate tillage systems. Project outcomes will be evaluated for soil biodiversity, ecosystems services delivery, and environmental, social and economic impact of crop management.
- **Partners:** Universidad de Vigo (coordinator), Universidad Politécnica De Cartagena, Symbiom, s.r.o, Fundacion Empresa Universidad Gallega, Kobenhavns Universitet, Eigen Vermogen Van Het Instituut Voor Landbouw- En Visserijonderzoek, Proefstation Voor De Groenteteelt, Rodriguez Gomez Ruben, Joonu Juuso, Perunantuotannon Tutkimus-Ja Kehityssaatio, Luonnonvarakeskus, Mattila Tuomas, Johann Heinrich Von Thuenen-Institut, Bundesforschungsinstitut Fuer Laendliche Raeume, Wald Und Fischerei, Instituto Orensano de Desarrollo Económico, Fertilizantes Y Nutrientes Ecologicos SL, Asociacion Regional de Empresas Agricolas y Ganaderas de la Comunidad Autonoma de Murcia (ADEA-ASJA), Eesti Maaulikool, Contactica SL, Flachenagentur Rheinland



GmbH, Inagro, Provinciaal Extern Verzelfstandigd Agentschap In Privaatrechtelijke Vorm Vzw, Pomona Vzw, Mittetulundusuhing Pollukultuurideklaster

- **EU Programme:** Horizon 2020 programme. SOCIETAL CHALLENGES - Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy
- **Budget: Total.** EU contribution- 6.999.888,75€
- **Calendar:** 01/06/2019 - 31/05/2025
- **Key words:** Functional diversity, Genetic diversity, microorganisms, macroorganisms, ecosystem services, methods, tools, farm resilience, farm stability, crop health, crop production, inputs reduction
- **Website:** <http://soildiveragro.eu/>



## Diverfarming

- **Crop diversification and low-input farming across Europe: from practitioners engagement and ecosystems services to increased revenues and chain organization**
- **Objective / Challenge:** The project will increase the long-term resilience, sustainability and economic revenues of agriculture across the EU by assessing the real benefits and minimising the limitations, barriers and drawbacks of diversified cropping systems under low-input agronomic practices that are tailor-made to fit the unique characteristics of six EU pedoclimatic regions (Mediterranean south and north, Atlantic central, Continental, Pannonian and Boreal), and by adapting and optimising the downstream value chains organization. This approach will provide: i) increased overall land productivity; ii) more rational use of farm land and farming inputs (water, energy, machinery, fertilisers, pesticides); ii) improved delivery of ecosystem services by increments in biodiversity and soil quality; iii) proper organization of downstream value chains adapted to the new diversified cropping systems with decreased use of energy; and iv) access to new markets and reduced economy risks by adoption of new products in time and space. Diverfarming focuses on research and innovation for rural development, with emphasis on developing new framework systems and business models adapted to the rural context of each pedoclimatic area of the EU, to foster sustainable growth through adoption of diversification, sustainable practices and efficient use of resources.





- **Partners:** Universidad Politécnica de Cartagena (coordinator), Consiglio Per La Ricerca In Agricoltura E L'analisi Dell'economia Agraria, Agencia Estatal Consejo Superior De Investigaciones Científicas, Università Degli Studi Della Toscana, Asociación Regional De Empresas Agrícolas Y Ganaderas De La Comunidad Autónoma De Murcia (ADEA-ASJA), Consorzio Casalasco Del Pomodoro Società Agricola Cooperativa, Arento Grupo Cooperativo Agroalimentario De ARAGON S COOP, Barilla G. E R. Fratelli Spa, Disfrimur Logística SL, Universidad de Córdoba, Wageningen University, Firma Nieuw Bromo Van Tilburg, Industrias David SL, University Of Portsmouth Higher Education Corporation, Universität Trier, Eidgenössische Technische Hochschule Zuerich, Frey-Treselerfrey Katharina, The University Of Exeter, PECSI Tudományegyetem - University Of Pécs; Aka Kereskedelmi, Termelő Es Szolgáltató Korlátolt Felelősségű Társaság; Nedel Market Mezőgazdasági Termelőkereskedelmi Es Szolgáltató Korlátolt Felelősségű Társaság, Luonnonvarakeskus, Paavola Risto Kalervo, Rainio Lasse, Jurrius Andreas, Sociedad Cooperativa Aragonesa Gallicum.
- **EU Programme:** Horizon Europe
- **Budget:** Total. EU contribution- 9.999.277,50€.
- **Calendar:** 01/05/2017 - 31/12/2022
- **Key words:** crop diversification, ecosystem services, land productivity, crop quality, production costs, agricultural value chain, efficient use of resources, policy framework.
- **Website:** <http://www.diverfarming.eu/index.php/es/>



DIVERFARMING

## AGROSUS

- **AGROECOLOGICAL STRATEGIES FOR SUSTAINABLE WEED MANAGEMENT IN KEY EUROPEAN CROPS** ([ficha en Cordis](#))
- **Objective / Challenge:** AGROSUS will identify appropriate tools and agroecological strategies to prevent and manage the occurrence of weeds in relevant crops, in conventional, organic and mixed farming, at the eleven biogeographic regions of the European Union and associated countries (Continental–Mediterranean–Atlantic–Macaronesian–Pannonian–Anatolian–Black-Sea–Boreal–Alpine–Steppic–Arctic), while reducing the reliance of synthetic herbicides to the environment and increasing biodiversity of agroecosystems. The consortium integrates a multi-actor approach for farmers' decision making and for including the different perspectives from stakeholders to decision-makers that regulate and administer policies. AGROSUS will rely on i) expanded knowledge on problematic weeds on European agriculture, current weeding techniques, and problems encountered by farmers and advisors, ii) advanced detection



tools iii) establishment of cultural, mechanical, physical, biological, and biotechnological AS in 68 short-term experimental units sprayed all over Europe, iv) actions carried out with stakeholders and policy makers to promote the most appropriate initiatives at the field, administration and regulatory levels, and v) technology transfer and training of stakeholders for prevention and management of weeds.

- **Partners:** Universidad de Vigo (coordinator), Agencia Estatal Consejo Superior De Investigaciones Científicas, Fundacion Empresa Universidad Gallega, Polissia National University, Uniwersytet Rolniczy Im. Hugona Kollataja W Krakowie, Universidade Da Madeira, Universita Degli Studi Di Milano, Seipasa Sa, Malatya Turgut Ozal Universitesi, Universidad Politecnica De Cartagena, Universitat Politecnica De Valencia, Eesti Maalikool, Agrarunternehmen Starbach-Sachsen Eg, Liga Asociatiilor Producatorilor Agricoli Din Romania (L.A.P.A.R.), Radgjafarmidstod Landbunadarins Ehf. Partners Asociados: Soproni Egyetem
- **EU Programme:** Horizon Europe
- **Budget:** Total. EU Contribution 4.689.926,25€
- **Calendar:** 01/06/2023 - 31/05/2027
- **Key words:** Sustainable agriculture, farmers know-how, cultural strategies, mechanical and physical strategies, biological strategies, biobased herbicides, farming digitalization
- **Website:** <https://agrosus.eu/>

 AGROSUS



### InBestSoil

- **SOIL BIODIVERSITY ENHANCEMENT IN EUROPEAN AGROECOSYSTEMS TO PROMOTE THEIR STABILITY AND RESILIENCE BY EXTERNAL INPUTS REDUCTION AND CROP PERFORMANCE INCREASE** ([Cordis](#))
- **Objective / Challenge:** Europe's soil is being irreversibly lost and degraded mainly due to natural factors such as climate change and human activities such as agriculture. While an investment in soils is necessary, soils can take decades to recover. Given this scenario, the EU-funded InBestSoil project will design an economic valuation system of the ecosystem services delivered by a healthy soil and the impacts of soil interventions and assess its incorporation into business models and incentives. This will allow public and private organisations to assign economic value to their actions. Involving 19 partners like farmers and enterprises from 10 countries, InBestSoil will provide data, evidence, tools and models to assess how investment in soil health can contribute to long-term resilient and sustainable use of soil.
- **Partners:** Universidad de Vigo (coordinator), Universidad Politécnica de Cartagena, Fondazione Centro Euro-Mediterraneosui Cambiamenti Climatici, Inxenia Desarrollos



Tecnologicos Sl, Centro De Valorizacion Ambiental Del Norte Sl, Wageningen University, Fundacion Global Nature, Sveuciliste U Zagrebu Agronomski Fakultet, Mykolo Romerio Universitetas, Latvijas Valsts Mezzinatnes Instituts Silava, June Communications Srl, Jurrius Andreas, Agris Sardegna - Agenzia Per La Ricerca In Agricoltura, Zabala Innovation Consulting Sa, Lgi Sustainable Innovation, Udea BV, Actyva Sociedad Cooperativa. Partners Asociados: Forschungsinstitut Fur Biologischen Landbau Stiftung Y The University Of Exeter

- **EU Programme:** Horizon Europe programme, Soil Mission
- **Budget: Total.** EU contribution: 4.587.468,00€
- **Calendar:** 01/01/2023 - 31/12/2026
- **Key words:** Resilience, preparation for the future, foresight Cocreation
- **Website:** <https://inbestsoil.eu/es/>



## FARM

- **Fostering Agriculture Rural Development and Land Management** ([ERASMUS+](#))
- **Objective / Challenge:** Knowledge, skills and innovation are the indispensable foundation of sustainable development. European agricultural and rural development policies have a long-standing record of stimulating innovation, moreover, sharing knowledge within networks speeds the process of adoption of innovations. Given these preliminary considerations, the first challenge of FARM project is to boost knowledge and technology transfer in the agricultural sector. The possibility to increase the level of information available to Agriculture and Rural Development about new technologies is directly linked to sectorial investments, economic and environmental efficiency and sustainability, food health and safety, ability to compete in the international market area.
- **Partners:** HOCHSCHULE HARZ (Coordinator), Association for Internationalization Of Education And Scienc, UNIVERSIDAD POLYTECHNICAL DE CARTAGENA, UNIVERSITY OF CYPRUS, VYTAUTO DIDZIOJO UNIVERSITETAS
- **EU Programme:** Erasmus+.
- **Budget:** EU contribution- 184.977,00 €
- **Calendar:** 01-11-2020 / 31-12-2022



- **Key words:** Agriculture, Forestry, Fisheries, Rural Development, Urbanisation, ICT - New Technologies - Digital Competences
- **Website:** <https://www.hs-harz.de/forschung/ausgewaehlte-forschungsprojekte/farm>



## COMPOSTER

- **Encouraging Young Farmers To Produce Compost For Healthy Soil And Organic Food Using Innovative Solutions ([ficha en ERASMUS+](#))**
- **Objective / Challenge:** The ultimate goal of the project is to contribute to the improvement of soil health as well as organic production through teaching composting process. The project aims to establish long-term cooperation and partnership relations among Turkey, Lithuania and Spain in composting sector, to develop the best practices on compost production conformant to EU quality and standards and setting up healthy information exchange, to design training programmes on sustainable compost production methods and putting these methods into practice, to train farmers and organise pilot exercises, and to implement some innovative composting methods.
- **Partners:** CANAKKALE ONSEKIZ MART UNIVERSITESI (coordinator), Ezine Gıda İhtisas Organize Sanayi Bölgesi, Isparta University of Applied Sciences, UNIVERSIDAD POLITECNICA DE CARTAGENA, Vsl Ziedine ekonomika
- **EU Programme:** ERASMUS+. Partnerships for cooperation and exchanges of practices
- **Budget:** 173.875,00 €
- **Calendar:** 28-02-22 | 27-02-2024
- **Key words:** Agriculture, Forestry And Fisheries Rural Development And Urbanisation ICT - New Technologies - Digital Competences
- **Website:** <https://composterasmus.org/>



## SPRINT

- **SUSTAINABLE PLANT PROTECTION TRANSITION: A GLOBAL HEALTH APPROACH ([ficha en Cordis](#))**



- **Objective / Challenge:** SPRINT will develop and validate a Global Health Risk Assessment Toolbox to integrate assessments of the impacts of plant protection products (PPP) on ecosystem, plant, animal and human (EPAH) health, using three main attributes for health status: resilience, reproduction/productivity and manifestation of diseases. The goal is integrated risk assessment at the local, regional, national and European level, focusing on different PPP use patterns and detected residue mixtures in contrasting farming systems (conventional, integrated, organic). SPRINT consists of 9 interlinked work packages. The distribution and the impacts of PPP on EPAH health will be evaluated at 11 case study sites (CSS), ten located in diverse agricultural European landscapes, and one in Argentina (soy production for feed for EU market).
- **Partners:** Wageningen University (Coordinator), Land Quality Management Ltd, Universitaet Bern, Aarhus Universitet, Stichting Radboud Universiteit, Fundacio Institut D'investigacio Sanitaria Pere Virgili (IISPV), Cooperativa Sociale Istituto Nazionale Per Lo Studio E Il Controllo Dei Tumori E Delle Malattie Ambientali Bernardino Ramazzini Societa Cs, Universidade De Aveiro, Universiteit Utrecht, Forschungsinstitut Fur Biologischen Landbau Stiftung, Danmarks Tekniske Universitet, Ecologic Institut Gemeinnützige GmbH, University Of Gloucestershire, Univerza V Ljubljani, Stichting Wageningen Research, Instituto Nacional De Tecnologia Agropecuaria, Centro De Investigaciones Energeticas Medioambientales Y Tecnologicas, Institut Za Poljoprivredu I Turizam Ustanova, **Universidad Politecnica De Cartagena**, The Food And Agriculture Organization United Nations, Masarykova Univerzita, Zoogdierstichting/ Dutch Mammal Foundation, Helmholtz-Zentrum Hereon GmbH, Universite Bordeaux, University College Cork - National University Of Ireland, Universiteit Antwerpen, Universitaet Hohenheim, Universita Cattolica Del Sacro Cuore.
- **EU Programme:** Horizon Europe programme.
- **Budget:** Total. 14.994.445,00€
- **Calendar:** 01/09/2020 – 31/08/2025
- **Key words:** Agronomy, plant protection, productivity, ecosystems
- **Website:** <https://sprint-h2020.eu/index.php/project-information/project-partners>



## FREEMYCO

- **A novel bio-controlling pre-harvest method to eliminate the mycotoxins contamination in agri-food sector**
- **Objective / Challenge:** Mycotoxins produced by fungi that grow on grain and cereal crops are a persistent threat to human health, with no effective and sustainable solution



currently available. Aflatoxin produced by species of *Aspergillus* fungus is a particular threat. The FREEMYCO project has identified an effective biological control agent and is conducting a feasibility study to bring this biocontrol product to market. Researchers at Ideagro have identified a strain of *Trichoderma koningiopsis* fungus, which controls *Aspergillus* and other mycotoxin-producing fungi pre-harvest, for both conventional and organic agriculture. It has been tested exhaustively and found to be effective in vitro. FREEMYCO will assess the economic, technical and commercial viability of the business plan, test the product in vivo, and formulate a final product for commercial markets.

- **Partners:** INVESTIGACION Y DESARROLLO DE ENSAYOS AGROALIMENTARIOS, SL
- **EU Programme:** H2020 - INDUSTRIAL LEADERSHIP - Innovation In SMEs
- **Budget:** € 71 429,00
- **Calendar:** 1 August 2019 - 31 January 2020
- **Website:** <https://cordis.europa.eu/project/id/875863>



## FER-PLAY

- **Multi-assessment of alternative fertilisers for promoting local sustainable value chains and clean ecosystems**
- **Objective / Challenge:** Fertilisers are important for feeding the world's growing population. However, conventional fertilisers threaten the environment and the sustainability of Europe's food system, which depends on imports from third countries. By 2030, the EU is committed to reducing the use of conventional fertilisers by 20 % and nutrient losses by 50 %. Fertilisers made from secondary raw materials like biowaste, sewage sludge and manure can help achieve these EU targets, but they are currently being held back by insufficient information about their value, technical viability and legislation. To boost awareness, the project will bring together key players from the entire alternative fertiliser value chain. It will map different value chains, choose the most promising ones and then evaluate their impacts.
- **Partners:** CETENMA, Consorzio Italiano Compostatori ; European Biogas Association Aisbl ; Nutrients Recovery Systems; Inagro, Provinciaal Extern Verzelfstandig Agentschap In Privaatrechtelijke Vorm Vzw; Fundacion Centro Gallego De Investigaciones Del Agua; Draxis Environmental Sa ; Dreven Srl; Revolve Planet ; Association Of Cities And Regions For Sustainable Resource Management; Confederazione Nazionale Coldiretti; Naturland - Verband Fur Okologischen Landbau Ev; Asociación Agraria De Jóvenes Agricultores
- **EU Programme:** Horizon Europe. HORIZON-CL6-2021-ZEROPOLLUTION-01



- **Budget:** Total cost € 1 999 749,50 - EU contribution € 1 999 749,50
- **Calendar:** 1 September 2022 - 28 February 2025
- **Key words:** alternative fertilisers value chains, conventional fertilisers, life cycle assessment, sewage sludge, bio-waste, organic by-products, wastewater
- **Website:** <https://fer-play.eu/>



## SOILUTIONS

- **SOILUTIONS - Enabling underused bio-waste feedstocks into safe and effective market-ready soil improvers.**
- **Objective / Challenge:** Soil degradation is considered a global emergency. 60-70% of EU soils are degraded due to unsustainable management practices. SOILUTIONS aims to tackle this problem by building upon previous key EU projects involving key consortium partners and bringing them forward, the main ones being WaysTUP! (SAV-Coord., DRAXIS), VALUEWASTE (CETENMA-Coord., NURESYS, GAIKER and ENTOMO) and Scalibur (CSCP and G!E). We will optimise four bio-waste valorisation routes (blood hydrolysate, frass, N-struvite, K-struvite) into advanced bio-waste soil improvers with the aim of enhancing nutrient recovery from bio-waste (e.g. N, P, K, organic matter) thus reducing landfilling and incineration. SOILUTIONS aims at large-scale adoption of four bio-based circular value chains: soil amendments from bio-waste containing sanitised animal blood, frass, N-struvite and K-struvite. The work plan encompasses value chain validation, safety and efficacy assessments, business models, as well as increasing market awareness and uptake, through a multi-stakeholder approach involving 3 living labs in Flanders (BE), Valencia (ES) and Murcia (ES), and technical partners to provide environmental, social and economic assessment of the proposed solutions.
- **Partners:** Sociedad Anónima de Agricultores de la Vega de Valencia (SAV) (Coordinator), CETENMA, NURESYS, GAIKER, DRAXIS, ¡Greenovate! Europe, Collaborating Centre on Sustainable Consumption and Production GGMBH (CSCP), Fundación de la Comunitat Valenciana para la Promoción Estratégica, el Desarrollo y la Innovación Urbana (LNV), ENTOMO, Universiteit Gent y Fertiberia.
- **EU Programme:** Horizon Europe (HORIZON-MISS-2022-SOIL-01)
- **Budget:** Total cost € 3 530 378,75 | EU contribution € 2 998 821,13
- **Calendar:** 1 June 2023 - 31 May 2026



- **Key words:** Bio-waste, soil improvers, circular economy, bioeconomy, Living Labs, sustainability, recycling
- **Website:** <https://www.soilutions-project.eu/>



## BENCHMARKS

- **BENCHMARKS - Building a European Network for the Characterisation and Harmonisation of Monitoring Approaches for Research and Knowledge on Soils**
- **Objective / Challenge:** Healthy soils are crucial for challenges related to climate, environment and society. Public and private sectors require a reliable assessment of the EFFECTS of management and policy innovations on soil health. Therefore, there is an urgent need to ensure that the EU sets the benchmark of a reliable cost-effective framework for measuring soil health. In alignment with existing initiatives such as EU Soil Observatory, EJP Soil and the LUCAS Topsoil survey, BENCHMARKS will co-design an Integrated Soil Health Monitoring Framework. This framework builds upon the assessment of soil-based ecosystem functions to co-develop an interactive soil health dashboard for (1) the selection of appropriate soil health indicators, (2) soil health assessment and indexation, and (3) recommendation of management practices to support soil health. The dashboard will be suitable at local, landscape, regional and European scales for stakeholders in urban, agricultural and forestry land use systems. Indicators combine information from sample-based measurements, data-bases, modelling, earth observation, and citizen science observations tested in 24 Living Labs across Europe.
- **Partners:** 27 partners: CSIC (CEBAS), Wageningen University (coordinator), INRAE, Fundación Regegeneration Academy, Commonland, Climate Farmers, ...
- **EU Programme:** HORIZON EUROPE SOIL MISSION (HORIZON-MISS-2021-SOIL-02-02)
- **Budget:** € 11 610 406,25 – EU Contribution € 11 502 963,25
- **Calendar:** 01/01/2023 – 31/12/2027
- **Key words:** soil health, monitoring, soil indicator, biodiversity, sustainable soil management, soil health dashboard, soil mission
- **Website:** <https://soilhealthbenchmarks.eu/>

Soil Health  
**BENCHMARKS**





## HALOFARM - CEBAS

- Development And Optimization Of Halophyte-Based Farming Systems In Salt-Affected Mediterranean Soils
- **Objective / Challenge:** to develop and optimise sustainable and environmentally friendly new farming and producing systems based on the cultivation of halophytes, able to cope with soil and water salinization and to restore biodiversity.
- **Partners:** Tunisia, Spain, France, Italy, Portugal, Egypt
- **EU Programme.** PRIMA, section 2
- **Budget:** 87 9871,75 €
- **Calendar:** 1/10/2020 to 30/9/2024
- **Key words:** Salinity; tomato, halophytes, in vitro culture, intercropping; crop rotation, plant biodiversity
- **Website:** <https://mel.cgiar.org/projects/halofarms>



## SUSTAIN

- **SUSTAINABLE USE OF SALT-AFFECTED MARGINAL LANDS**
- **Objective / Challenge:** to build a global and European transdisciplinary knowledge-to-practice network of scientific experts and engaged stakeholders in the field of salinity research in the context of food security and progressing adaptation to climate change.
- **Partners:** 18 different countries
- **EU Programme.** COST action
- **Budget: first year:** 125 000. Rest of the period to be determined.
- **Calendar:** 3/10/2023 to 2/10/2027
- **Key words:** salinisation - saline agriculture - salt-affected soils - sustainable development
- **Website:** <https://www.cost.eu/actions/CA22144/>