

# ConnectFarms - Connecting sustainable agroecosystems and farming with circular bioeconomy and new technologies

## Coordinated by

Prof Nelson Marmioli -  
Consorzio Interuniversitario  
Nazionale per le Scienze  
Ambientali (CINSA) Italy

## Partners

BULGARIA: Agricultural university -  
Plovdiv

LITHUANIA: Lithuanian Research  
Centre for Agriculture and  
Forestry

ESTONIA: University of Tartu

SPAIN: CIEMAT - NEIKER

POLAND: Warsaw University of  
Life Sciences

TURKEY: Niğde Ömer Halisdemir  
University

ITALY: University of Milano -  
Consiglio per la Ricerca in  
Agricoltura e l'Analisi  
dell'Economia Agraria (CREA)

## Challenge

The ConnectFarms project will develop approaches to increase in a sustainable way integrated crop-livestock production while benefiting soil resilience to stress and climate change. This will include an extensive toolbox for farmers and stakeholders addressing crop-livestock integration, precise farming, organic amendments, reuse of residues in circular economy and sustainability improvements of farming practices. A set of recommendations for sustainable strategies leading to environmentally sound production in compliance with the Farm to Fork strategy will be given. Emphasis will be given to new approaches based on science and nature-based solutions to manipulate crops, livestock, soil and plant microbial communities to maximize positive ecological interactions and enhance ecosystem services.

## Project duration

1 December 2021 - 30 November  
2024

## Website

<https://www.era-susan.eu>



# ConnectFarms

## Approach

The ConnectFarms concept is highly interdisciplinary and joins together expertise from many research fields, to achieve an integration of crop, livestock and ICT to obtain ecosystem services in agreement with the needs of sustainable agriculture. Partners will work in experimental sites in all – Bulgaria, Estonia, Italy, Lithuania, Poland, Spain and Turkey. Focused aspects of the project will concern agriculture and soil fertility – crop and livestock – amendments and biochar for soil health – welfare and sustainability for animals – precision farming – life cycle and ecosystem services assessment - stakeholder involvement.

The ambition of the project is to contribute to innovative strategic food systems by targeting enhanced agricultural technology, food processing and preservation innovation, environmental issues, and ultimately human health. ConnectFarms explores the interaction between arable crops, e.g. barley, and pulses with farm animals of high relevance, sheep and chicken. The connection is maintained through triangulation - crop becomes feed for animals, residues become amendments, amendments feed and boost crops and animals. The sustainable use of biochar is our keystone to improve both plant and animal farming in a circular economy approach.

The presenting consortium includes 10 partners: one Interuniversity Consortium, 5 universities, and 4 research institutions, based in 7 countries. The project is highly interdisciplinary as it includes

- ecological and agronomic studies
- soil and crop management to improve diversity and functionality and
- studies of ecosystem services such as C sequestration, nutrient cycling, and pest control.

Connecting the work of the different partners by comparing soil amendment methods, energy requirements, management practices, yield records and the experiences at the different locations in Europe will be an important priority to successfully carry out the project.

