

## IMPROVING CIRCULARITY IN AGROECOSYSTEMS – THE ConnectFarms RESEARCH PROJECT

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The ConnectFarms project is developing approaches to increase in a sustainable way integrated crop and livestock production systems to benefit soil resilience from stress and climate change adaptation, and to mitigate gas emissions from animal farming. This will include as final result an extensive toolbox for farmers and stakeholders addressing crop-livestock integration, precise farming, reuse of residues for organic amendments production in the framework of 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 is given to new approaches based on science and nature-based solutions to handle crops, livestock, soil and plant microbial communities to maximize positive ecological interactions and enhance ecosystem services. These approaches will depend on synergistic relationships between plants and animal systems to strengthen agroecosystem processes.

ConnectFarms partners are working in experimental sites in different countries across Europe - Bulgaria, Estonia, Italy, Lithuania, Poland, Spain and Turkey. Focused aspects of the project include: agriculture and soil fertility; crop and livestock production; amendments and biochar for soil health; animal welfare and sustainability; precision farming; life cycle and ecosystem services assessment and 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 project explores high relevance interaction between crops and farm animals. The connection is maintained through triangulation: crop becomes feed for animals, residues become amendments, and amendments feed and boost productivity in crops and animals. In this case, sustainable use of biochar is our keystone to improve both plant and animal farming in a circular economy approach.

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