

# Consortium

Coordinator:



It is a spin-off of the Università Cattolica del Sacro Cuore born in 2008 with the mission to increase the value of research by transferring the technological innovation to practical agriculture at national and international level.

[www.horta-srl.com](http://www.horta-srl.com)

Partner:



It is the largest Italian academic Institution, counting 5 campuses, 12 faculties and more than 40 thousand students. Faculty of Agriculture, food and environmental sciences has its campus in Piacenza and was established in the academic year 1952-53.

[www.unicatt.it](http://www.unicatt.it)



It is a public University specialized in applied sciences which aims to pave innovative pathways in education and research, responding to the modernization and innovation of society itself.

[www.santannapisa.it](http://www.santannapisa.it)



It is the Emilia-Romagna Consortium Company created to promote the sustainable growth of the region through the development of innovation and knowledge, the attractiveness and internationalization of the territorial system.

[www.art-er.it](http://www.art-er.it)



It is one of the leading plant breeding company (mainly bread and durum wheat, barley, oat, pea, sunflower, alfalfa, chickpea and faba bean) in Italy and in other European countries.

[www.agroservicespa.it](http://www.agroservicespa.it)



The Department of Agricultural and Environmental Sciences – Production, Land, Agroenergy deals with training, research and third mission activities in the field of agricultural sciences. The three pillars on which it is based are plant production, agricultural engineering and animal sciences.

[www.unimi.it](http://www.unimi.it)



It is a new company of the Tecniche Nuove Group, which includes some of the leading technical headlines in the specialized publishing market, and it works in the agrofood sector under the Edagricole brand.

[www.edagricole.it](http://www.edagricole.it)

[www.agrestic.eu](http://www.agrestic.eu)

[info@agrestic.eu](mailto:info@agrestic.eu)



The LIFE AGRESTIC project received funding from the EU Life Programme

# LIFE AGRESTIC

Reduction of  
Agricultural  
Greenhouse gases  
Emissions  
Through Innovative  
Cropping systems

# The LIFE AGRESTIC project is part of the Priority Area **Climate Change Mitigation** - LIFE Climate Action 2014-2020.

It promotes the adoption of **innovative and efficient cropping systems**, with a high potential for climate change mitigation. It contributes to the dissemination of **innovative visions and tools** for a more efficient and climate friendly agriculture.



## The main activities

**Test of innovative and efficient cropping systems (ECS)**, in terms of greenhouse gas emissions management, based on the introduction of legumes (pea, chickpea and lentil) and catch crops in a four-year rotation cycle. ECS are tested in three demonstration sites (Emilia-Romagna, Tuscany and Puglia) and compared with conventional farming systems (CCS). *The inclusion of legumes and catch crops in the Ecs has increased carbon assimilation and nitrogen organication. Overall, there has been a reduction in nitrogen fertiliser use and carbon footprint compared to Ecs.*



**Recovery, characterization and multiplication of local and rare varieties / lines of legumes and catch crop** in order to identify the most promising ones in terms of agronomic and environmental performance. *The most suitable genotypes for the Ecs have been identified and for some the registration process in the national variety register has been started.*



**Development of an innovative Decision Support System (DSS)** for a more efficient management of crop systems. *New models, algorithms and functionalities for sustainable crop management and climate change mitigation have been included in the DSS.*



**Detection of greenhouse gas emissions from soil** (CO<sub>2</sub> and N<sub>2</sub>O), thanks to a prototype for the real time measurement. *The data obtained from the prototype highlight the differences between the Ecs and Ccs systems and the benefits of certain crop operations. The data obtained enabled the development and calibration of predictive models.*



**Valorisation of climatic and environmental performances achieved.** *A product label that considers ecosystem services and footprints environmental footprints has been developed and tested.*



**Evaluation of the project's replicability in other European countries.** *Collaborations were established with universities in France, Greece, Romania and Hungary to assess the adaptability of Ecs to local contexts.*



**Involvement of stakeholder** in the project activities co-development. *Several meetings were held with the project's stakeholder platform in order to present progress and receive feedback on the activities implemented.*