



Il progetto LIFE AGRESTIC ha ricevuto finanziamenti dal Programma LIFE dell'Unione Europea

**AGRESTIC**



**Short technical note**

# Ecosystem Services in Agriculture

Ecosystem services are "the multiple benefits provided by ecosystems to humans". They are services that nature provides to mankind and can therefore be remunerated. For some types of ecosystem services there is a market (e.g. timber, agricultural production), while for others it is more difficult to construct suitable forms of payment. Sustainable agricultural practices, as the techniques applied in the LIFE AGRESTIC pilot plots, can improve ecosystem services and environmental footprints.

## Problem

In AGRESTIC two kinds of problems are tackled. The first is the quantification of ecosystem services in physical and monetary terms. The second is the definition of mechanisms aimed to reward farmers that adopt efficient cropping systems (e.g. including cover crops, reduced tillage).

## Solution

Tested agronomic practices, as cover crops and legume-based crop rotations, generated positive effects on soil fertility, biodiversity conservation, pollination, carbon sequestration, pesticide management, erosion protection, water regulation and landscape quality. A survey on consumers found a willingness to pay between 5 % and 15 % more for food products that use raw materials grown through practices that protect and enhance ecosystem services. AGRESTIC developed an environmental label based on performances in terms of ecosystem services and environmental footprints that is aimed to give benefits at supply chain level.

## Impact

Studies carried out in pilot plots highlighted that efficient cropping systems generated a reduction in pesticides by 30 % and erosion by 5 %, an increase in pollination potential by 4 % and soil organic matter by 7 %. An application of the AGRESTIC label scheme to the sunflower supply chain showed a 20% reduction in carbon footprint.

## Practical recommendation

To assess environmental performances related to innovative agricultural practices it's necessary to collect a great volume of data. In the AGRESTIC project, the Decision Support System (DSS) has permitted to use data from crop operations logbook.

## Further information

- LIFE AGRESTIC web page [www.agrestic.eu](http://www.agrestic.eu)

## Applicability box

### Theme

Sustainable agriculture and environmental performances

### Keywords

Ecosystem services, carbon footprint

### Geographical coverage

Italy

### Application time

2019-2021

Coordinatore:



Partner:



UNIVERSITÀ DEGLI STUDI DI MILANO  
DIPARTIMENTO DI SCIENZE AGRARIE  
E AMBIENTALI - PRODUZIONE,  
TERRITORIO, AGROENERGIA



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### About this short technical note and LIFE AGRESTIC

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**LIFE AGRESTIC:** The LIFE AGRESTIC project aims at fostering the adoption by EU farmers of innovative and efficient cropping systems with a high climate-change mitigation potential, and spreading innovative views and tools for climate ready and resource efficient agriculture.

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

**Project partners:** Horta srl; ART-ER S.Cons.p.a; ISEA srl; New Business Media Srl; Scuola Superiore di Studi Universitari e di Perfezionamento Sant'Anna; Universita' Cattolica del Sacro Cuore, Università degli Studi di Milano

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