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| **Name of the project** | LIFE AGRESTIC – Reduction of Agricultural GReenhouse gases EmiSsions Through Innovative Cropping systems (LIFE17 CCM/IT/000062) | | |
| **Website** | https://www.agrestic.eu/ | **E-mail** | v.manstretta@horta-srl.com |
| **Project Leader** | Horta srl | | |
| **Starting year** | 2019 | **Closing year** | 2023 |
| **Budget** | 3,940,804 € (2,362,231 € EU contribution) | **Programme** | LIFE17 CCM/IT/000062 |
| **Main objective** | Fostering the adoption of innovative and efficient cropping systems with a high climate-change mitigation potential.<br>Spreading innovative views and tools for a climate ready and resource efficient agriculture. | | |
| **Project Partners** | ART-ER S.Cons.p.a.<br>ISEA srl<br>New Business Media Srl<br>Scuola Superiore di Studi Universitari e di Perfezionamento Sant'Anna<br>UNIVERSITA' CATTOLICA DEL SACRO CUORE | | |

| **Project Description** | LIFE AGRESTIC puts into practice, tests and evaluates at a farm scale innovative methodologies for agricultural land management that can contribute to climate change mitigation, allowing to decrease soil greenhouse gas (GHG) emissions from agricultural soil and to enhance carbon sequestration. The innovation proposed by the project relies on introducing legumes in crop rotations (as both crops and catch crops) and in crop management through web-based Decision Support Systems (DSS). The innovative N- and C-Efficient Cropping Systems (ECSs) designed this way have an higher potential of carbon storage and nitrogen efficiency and lower GHG emission rates compared to the Conventional Cropping Systems (CCSs). The cropping systems are realized in three demonstration sites in Italy. Legumes varieties are also evaluated in the Project, with the aim to identify and multiply the ones with the better agronomic and environmental performances.<br>The measurement of GHG emission from the soil in two demonstration sites is done by mean of a prototype system designed, developed and tested in the project. The prototype allows the continuous measurement of $N_2O$ and $CO_2$ from the demonstration plots, so that CCSs and ECSs can be compared considering GHG emissions. Data collected by the prototypes will also be used to calibrate a biogeochemical model for GHG estimation, to be used for validation and transferability evaluation.<br>The activities carried out in demonstration sites are also the base to develop new ways to valorize climate and environmental performances of the ECS in comparison to CCS, through market based and/or policy-based measures.<br>Replication activities and transfer of the innovations in other European countries (France, Greece, Hungary and Romania) and to other economic operators and stakeholders in different food chains are also ongoing. |
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Project notice board and GHG emission measurement prototype in the demonstration site in Foggia, South of Italy

Alfalfa catch crop, intercropped in wheat, development at end of August 2020 in demonstration site in Ravenna, North Italy