



**Soil: fertility, biological life and fighting against erosion**

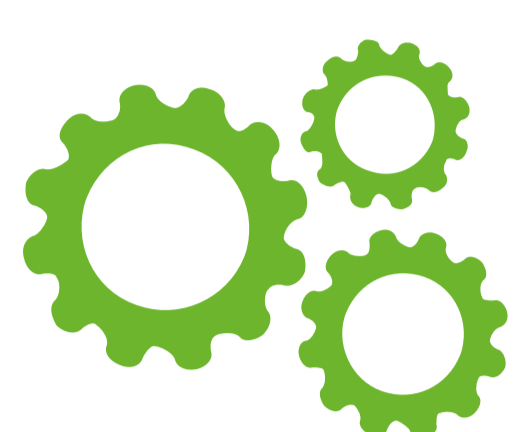


**AGRI Innovation** summit 2019

## Operational Group

### “GO Solo”: Development of an expedited low-cost soil organic matter evaluation method for sown biodiverse pastures

“GO Solo”: Avaliação da dinâmica da matéria orgânica em solos de pastagens semeadas biodiversas através do desenvolvimento de um método de monitorização expedito e a baixo custo



## Practical problem

Finding an expedited, systematic remote surveying method that farmers can use to cost-effectively analyse soil organic matter



## Partners

Terraprima – Serviços Ambientais, Sociedade Unipessoal Lda. (leader) + 10 others (7 farmers)



## Calendar

Start: 01/08/2018  
End: 31/12/2021



## Budget

Total amount:  
€234,208.27

## Objectives of the project

The goal of GO Solo is to find an expedited and low-cost method for soil organic carbon (SOC) mapping and assessment of carbon sequestration in sown biodiverse pastures. The method will use visible and near-infrared spectroscopy (VNIR) using field sensors and satellite data.

## Main activities

The project will perform data collection in 7 farms in Portugal between 2018-2021. Soil samples will be collected in each farm plot (~25 hectares per farm). The sample points will be based on measurements of electrical conductivity. Samples will be collected using mechanical equipment. SOC in the samples will be determined conventionally, through lab analysis, as well as using NIR spectroscopy. Results will be correlated with satellite data. Through field visits, pasture management will be characterised and its role on SOC measurements will be determined.

## Expected results

1. High-resolution SOC maps for 7 initial farms during 5 years, including detailed geospatial analysis.
2. Assessment of the effects of pasture management in SOC accumulation.
3. Forecast of carbon sequestration in the initial farms and an extrapolation of the data for potential new pasture areas.
4. Normalised method for VNIR assessment of SOC.

## Results so far/first lessons

GO Solo required the assembly of a vast partnership of farmers and research/public institutions skilled in technology, agricultural management and SOC measurement. The network of farmers ensures the inclusion of distinct management strategies for sown pasture areas. During the first year, soil sampling started and the main experimental protocols have been defined. The heterogeneity of this farmer pool assures that the results of the project will be useful for other pasture areas in Portugal.

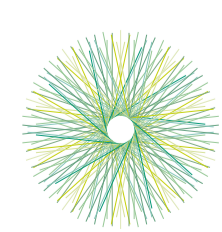
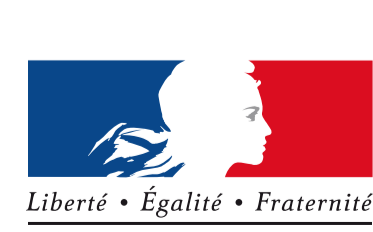
## Who will benefit

Farmers will be able to optimise management for SOC increase; policy-makers will better assess carbon sequestration.

**Supported by:**



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