

Development of an expedited low-cost soil organic matter evaluation method for sown biodiverse pastures

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

PORTUGAL

Starting date - expected end date | 01.08.2018 - 31.12.2021

<https://www.terraprima.pt/pt/projecto/24>

Operational Group

Sown biodiverse pastures (SBP) are a mix of up to 20 high-yield species/varieties of grasses and legumes. The “portfolio effect” generated by the diversification of species in the pasture enables the best adapted plant type to grow at each location (adaptation to geodiversity) and in each year (adaptation and selection for weather diversity). For those reasons, SBP are more productive than spontaneous or semi-natural pastures. Their high yields are also accompanied by increases in soil organic carbon (SOC) and consequently by carbon sequestration. Measuring this latter effect, however, is costly and time-consuming.

The main objective of this operational group is to develop an expedited and low-cost method for SOC mapping and assessment of carbon sequestration in SBP. The method will be based on proximal and remote sensing. Visible and Near-Infrared spectroscopy (VNIR) will be collected using field/lab sensors and satellite data. Traditional soil analyses will be made through mechanized soil sampling, and the data will be used to calibrate a model that, in the future, will be capable of estimating SOC in PSB from remote data.



Lead partner: Terraprima (Research and advisory)

Other partners

Research

- ▶ Universidade de Évora (University); Instituto Nacional de Investigação Agrária e Veterinária (Research institute)

Farmers

- ▶ Herdade da Machoqueira do Grou; Terraprima Sociedade Agrícola Lda.; Fundação Eugénio de Almeida; Sociedade Agrícola Herdade dos Padres, SA; ZEA - Sociedade Agrícola Unipessoal, Lda; Tapada dos Números, Sociedade Agrícola, Lda; Herdade do Azinhal.

Farmer associations

- ▶ Confederação dos Agricultores de Portugal



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