



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



**AGRI
Innovation** summit 2019

EIP AGRI Focus Group

Soil organic matter content in Mediterranean regions

Subject of the Focus Group

How can we improve soil organic matter content in the Mediterranean region in a cost-effective way?
What new solutions for securing soil functionality and soil fertility?

Context for the Focus Group

Soil organic matter (SOM) plays a number of key roles in terrestrial ecosystems and agroecosystems, as related to the three components of soil quality and fertility. There is clear evidence of a decline in SOM contents in many soils as a consequence of the unprecedented intensification of agriculture during the 20th century, and the Mediterranean regions of Europe exhibit distinctively smaller values of SOM than those of other regions.

Key Questions

The group started with a comprehensive survey of techniques for increasing SOM content and/or securing soil functionality and fertility, analysing their pros and cons, dividing them in five clusters of practices:

- optimised use of resources of organic carbon
- optimised soil management
- optimised crop selection and management
- possible use of bioeffectors and microbial inoculants
- development of tools to properly assess the soil organic matter (SOM) content and soil quality, with a special focus on its biological component

Main Findings

Across all the above topics, it was stressed that there was an overarching need to:

- better define adequate indicators and reference values
- improve knowledge sharing and dissemination, including education about the functions of soil organic matter and soil biota
- develop a systems approach and long-term evaluation rather than single, simple technical solutions (“recipes”) with short-term efficiency

Ideas for Operational Groups

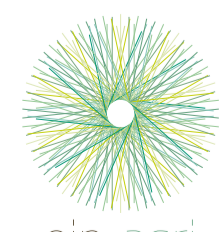
Diagnostic procedure and recommendations for SOM management
Optimising the use of fertilisers and pesticides in conservation agriculture
Organic resources from tree-based cropping systems
Benchmarking for SOM
Introducing conservation agriculture within organic farming systems
Biomass production: bioenergy crops and SOM content

Research needs from practice

Evaluating the long-term economic benefits of SOM improvement
Selecting/breeding crops and genotypes combining increased production of residues (to increase SOM) and income (to increase crop yield and/or quality)
Establishing agronomic references for manure application in Mediterranean agriculture
Defining quality standards for manure inventory
Defining SOM reference values related to soil types and functions
Designing organic carbon analysis standards and databases



All findings from the Focus Group and more ideas for Operational Groups and research needs are available in the final report on the EIP AGRI website: <https://ec.europa.eu/eip/agriculture/en>.



AGRI INNOVATION SUMMIT 2019 LISIEUX
More information www.reseaurural.fr/ais2019

