SoilCare

SoilCare contribution to the Soil Strategy Consultation

POLICY BRIEF
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SUMMARY

The SoilCare project has tested and evaluated the concept of Soil Improving Cropping Systems (SICS) to increase sustainability and profitability. The premise behind this is that there are combinations of cropping systems that improve soil quality and at the same time have positive impacts on profitability and sustainability.

SICS are composed of three elements: long crop rotations, soil improving crops and agronomic management techniques. This policy brief is SoilCare's response to the public consultation on the new EU Soil Strategy - highlighting how the findings can inform and strengthen the strategy. The findings relate directly to the consultation's questions on indicators for soil health, how the EU can better support farmers and the most important factors for adoption of SICS.

Training for empowerment

Keeping soil covered with diverse species

POLICY OPTIONS

Actions to support the uptake of SICS:

- Involve stakeholders & farmers in the development of national and sub-national policy instruments
- Use the strategic planning approach established by the new CAP to formulate, with farmers, minimmum requirements and voluntary measures and schemes that meet local conditions
- Give farmers confidence in policies & grants through >7 year arrangements & flexibility for regional differences (see SICS Potential Index below)
- Strengthen capacity of Farm Advice Services & ensure independence from industry.

Support farmers, foresters and other land users to apply SICS through the EU's CAP and farm advisory services

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The SoilCare project is funded by the European Union's Horizon 2020 research and innovation programme, under grant agreement No. 677407.

Indicators to assess current soil status and to track changes

The table below details the indicators proposed by the SoilCare project for monitoring soil quality in common cropping systems. It should be stressed that these indicators are recommended for monitoring or assessment of cropping systems over short periods (**2-3 years**), and that other indicators of soil quality may be relevant over longer periods. SoilCare proposes here to use at least one indicator for each soil quality dimension.

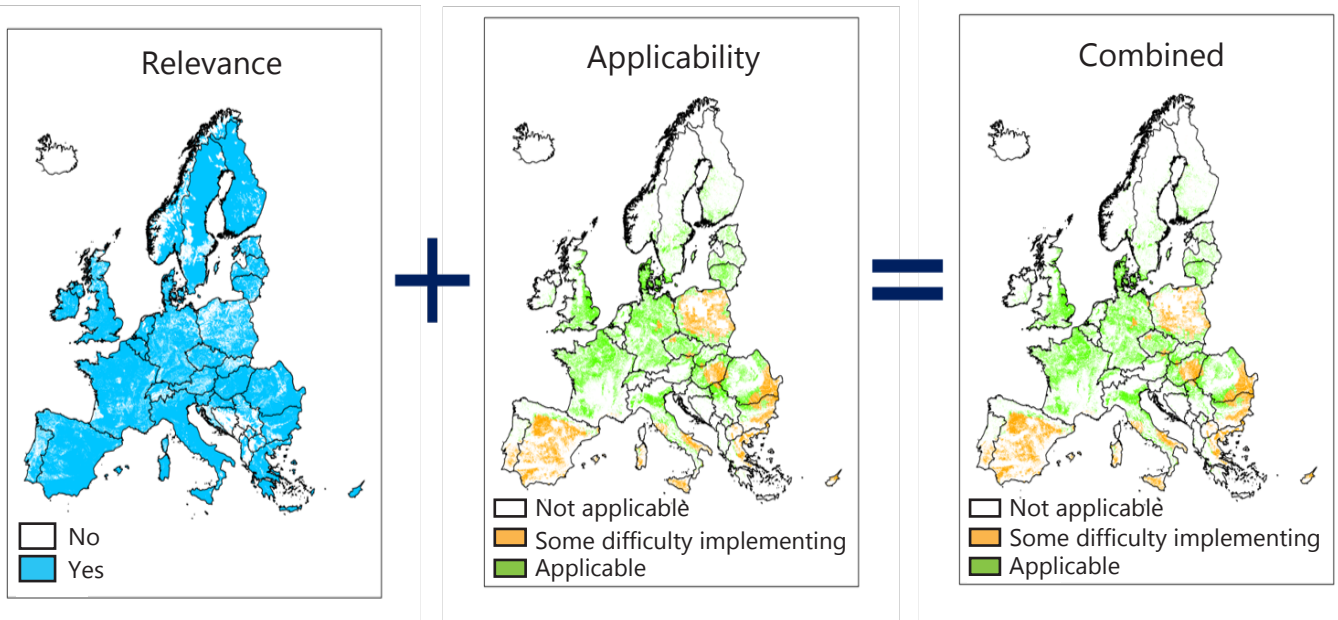
More information on the methods and results can be found in report D5.3, available at: https://www.soilcare-project.eu/resources/deliverables

Category	Indicator (unit)	Method
Soil productivity	Crop yield of biomass in dry matter (t ha^{-1} $year^{-1}$)	Yield measurement or quadrat sampling
Soil physical properties	Water stable aggregates (%)	Wet sieving (250 µm - 2mm)
Soil biological activity	Earthworm presence (number / m^2)	Mustard extraction method
Soil Organic Carbon	Total Organic Carbon (%)	Walkley-Black method

Use of SICS Potential Index for understanding soil threats regionally

The SoilCare project has created a 'SICS potential index' combining Europe-wide maps and expert knowledge to identify where SICS can best be applied, taking into account both the applicability of the SICS (based on, amongst others, precipitation, aridity, soil type and land use) and their relevance to mitigate certain threats (e.g. erosion, compaction, loss of organic matter, soil fauna). The maps below are an example of the SICS potential index for cover crops, and show that they are widely applicable across much of Europe (green colouring), but in some locations it may be initially difficult to implement SICS, for example planting cover crops in an already arid climate (orange colouring).

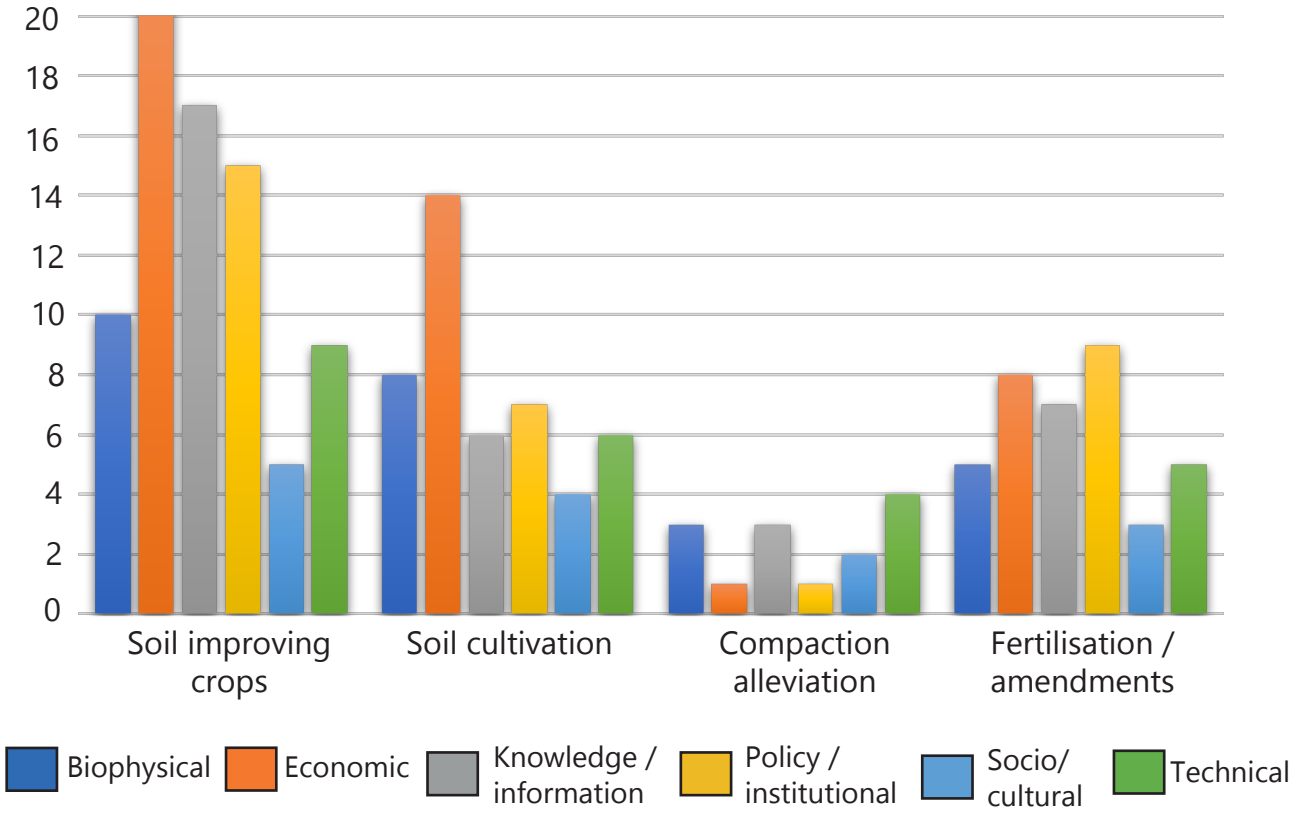
Policy can employ the use of these maps through understanding what specific threats are in specific regions and which SICS can be applied to help improve soil health and management in each region. They therefore stress the need for different strategies and SICS to be applied in different areas, in order to best improve soil health.



Factors affecting the uptake of SICS

SoilCare tested and evaluated a range of Soil-improving Cropping Systems at study sites in 16 European countries. During workshops, the total number of unique adoption factors mentioned by stakeholders (biophysical, economic, knowledge / information, policy / institutional, socio-cultural and technical) were counted. SICS practices were grouped together into the following clusters: fertilisation/amendments, soil improving crops (cover crops and crop rotations), soil cultivation, and compaction alleviation. The figure below shows, broken down by SICS cluster, the most important adoption factors identified by local stakeholders during workshops organised in 13 of the 16 study sites.

More details can be found in the country reports available at: **https://www.soilcare-project.eu/resources/resources-for-policy-makers/42-resources/254-policy-reports**. The full EU and cross-site analysis can be found in D7.2 available at: **https://www.soilcare-project.eu/resources/deliverables**



Policy at EU and Member State levels

Analysis of SoilCare farming system stakeholders suggests that the current policy framework does address key threats to the health of soil, however, the imapcts of policy are largely defined by how they are implemented at regional and local levels. A greater recognition of this is needed at EU-level, in order to allow greater responsibility to flow into Member States. This should therefore be more effective at implementing policies in ways that make sense to farmers on a more local scale, taking into consideration their diverse situations and needs.

The full report from which this policy brief has been created can be accessed here (D7.2 Report on the selection of good policy alternatives at EU and study site level): **https://www.soilcare-project.eu/resources/deliverables**

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