SoilCare

SOILCARE FOR PROFITABLE AND SUSTAINABLE CROP PRODUCTION IN EUROPE

Policy analysis: PROMOTING SICs ADOPTION IN ALMERIA, SPAIN

SOIL HEALTH RELATED PROBLEMS ON SITE

Compaction | Water scarcity | High salt content | Excessive nutrient input

SOIL-IMPROVING CROPPING SYSTEMS FOR INCREASING SOIL HEALTH IN ALMERIA, SPAIN

The following soil-improving cropping systems (SICS) were tested in Almeria, Spain, to address the main soil threats identified above:

1. **Cover crops**
2. **Reduced tillage**
3. **Efficient irrigation management**

In addition, there are several long-term experiments testing various tillage methods (conventional, reduced and no tillage), fertiliser applications, crop rotation systems (including legumes and other soil improving crops), as well as residue management methods (post-harvest residues left on the fields for nutrients and organic matter recovery).

The SICS above present important practices that might benefit soil health if widely taken up. The main aim of this study was to formulate policy alternatives and actions and to facilitate the adoption of SICS.

Evidence gathered through desk research, interviews and a stakeholder workshop show that different factors contribute to and undermine the uptake of SICS in general, and of the practices tested in Almeria, Spain in particular. These include:

- Applying for payments is too bureaucratic
- Lack of enforcement
- Trust in long-established practices
- Costs of transitioning to new practices
- Environmental conditions

COVER CROPS FOR COMPACTION ALLEVIATION AND TO IMPROVE SOIL QUALITY

Factors encouraging (+) or hindering (-) the adoption of controlled deficit irrigation and mulch cover with pruning remains and vegetable coverings sown

- Maladapted policy setup (-)
- Farmers' resistance to new practices (-)
- Lack of awareness and information (-)
- Lack of access to technology and machinery (-)
- Lack of enforcement and monitoring (-)
- Water scarcity (-)
- Operational costs (-)
- Size of exploitation (-)

Factors encouraging (+) or hindering (-) the adoption of controlled deficit irrigation and vegetative cover of adventitious herbs/plant cover planted:

- High provision of inputs (+)
- Dissemination of efficiency potential as wind erosion control (+)
- Access to technology/machinery (+)
- Possibility of management agreements (+)
- Lack of enforcement and monitoring (-)
- Farmers' resistance to new practices (-)
- Plant cover selection (-)
- Lack of training for farmers (-)

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POLICY SHORTCOMINGS AND OPPORTUNITIES FOR FACILITATING THE UPTAKE OF SICS

SICS adoption is already promoted through a range of existing regulatory, economic, and voluntary policy instruments and measures in Almeria, Spain. The analysis shows that that several policies regulate and incentivse the use of cover crops, reduced tillage, and integrated nutrient management, the SICS tested at the study site: direct payments, greening measures, and rural development plans under the CAP all provide financial rewards to farmers adopting reduced or no-tillage practices and cover crops (in the form of nitrogen-fixing crops) but only on certain types of land. Integrated nutrient management practices are regulated mostly through water protection legislation. In addition, policies implementing the EU Organic Regulation formulate mandatory requirements for fertiliser use and tillage practices. Most of the policies identified as relevant do not regulate or incentivise efficient irrigation practices with the exception of the National Action Programme to Combat Desertification, which, however, mainly focuses on promoting good soil management practices through information sharing and demonstration projects.

Blue circles= SICs tested in the study site; Red circles = Other SICs promoted through existing mandatory, economic, or voluntary policy instruments in Almeria, Spain

	CROP ROTATION	GREEN MANURES, COVER CROPS, CATCH CROPS	INTEGRATED NUTRIENT MANAGEMENT	EFFICIENT IRRIGATION	CONTROLLED DRAINAGE	REDUCED/NO TILLAGE	INTEGRATED PEST MANAGEMENT	SMART WEED CONTROL	SMART RESIDUE MANAGEMENT	CONTROLLED TRAFFICKING	INTEGRATED LANDSCAPE MANAGEMENT
CAP GAEC cross-compliance standards and greening payments	●	●				●					●
CAP Greening requirements	●	●				●					
CAP Rural Development Program of Andalucía 2014-2020	●					●					
Royal Decree on agro-ecolocical production and its indication in agricultural products and foodstuffs	●		●			●	●				
Decree on organic agro-food production in Andalusia	●		●			●	●				
III Andalusian Plan of Ecological Production Horizon 2020	●	●	●	●	●	●	●	●	●	●	●
Law on fiscal, administrative and social measures			●	●	●		●				●
Law on Waters for Andalusia			●	●	●		●				●
Royal Decree amending Annex II of Royal Decree 1514/2009 of 2 October, which regulates the protection of groundwater			●				●				
Royal Decree protecting waters from the pollution by nitrates derived of agricultural sources	●		●								
Order approving the action program applicable in areas vulnerable to nitrate pollution from designated agricultural sources in Andalusia	●		●								
Decree on the Use of Sewage Sludge in the Agricultural Sector			●								
Decree approving the Waste Regulations of Andalusia			●								
Royal Decree establishing the framework of action to achieve a sustainable use of phytosanitary products							●		●		
Decree on the prevention and control of pests, the sustainable use of plant protection products, the inspection of equipment for its application and the creation of a census of equipment for the application of phytosanitary products							●		●		
Royal Decree modyifying the Royal Decree 506/2013, of June 28, on fertilizer products			●								
National Action Programme to Combat Desertification	●	●	●	●	●	●	●	●	●	●	●

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POLICY RECOMMENDATIONS

Based on the results of this study, the following policy recommendations can be made:

ESTABLISH MECHANISMS FOR EFFECTIVE KNOWLEDGE DISSEMINATION AND EXCHANGE

AWARENESS RAISING
EXCHANGE OF PRACTICES
GUIDANCE

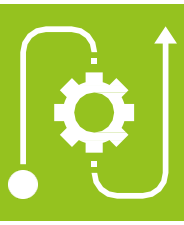
SUBSIDISE TRANSITION TO PRACTICES BENEFITING SOIL HEALTH

SETTING UP A SYSTEM FOR GRANTS DISTRIBUTION

STRENGTHEN POLICY ENFORCEMENT

STRENGHTENING AND EXPANDING COMPLIANCE CHECKING MECHANISMS

MAKE INCENTIVES MORE EFFECTIVE BY SIMPLIFYING APPLICATION PROCESS



SIMPLIFYING PROCEDURES FOR FARMERS

ESTABLISH MECHANISMS FOR EFFECTIVE KNOWLEDGE DISSEMINATION AND EXCHANGE

AWARENESS RAISING
EXCHANGE OF PRACTICES
GUIDANCE

Establish mechanisms for effective knowledge dissemination and exchange between farmers:

Some of the practices benefitting soil will require farmers to learn about these techniques, their application to different conditions as well as their benefits in order to change their misconceptions about these methods. To this end, research findings should be made accessible and widely disseminated and educational activities should be encouraged. Knowledge should be disseminated via multiple channels, through the provision of guidance document but also farms visits and demonstration days. Since farmers tend to place a lot of trust in their peers, establishing a network of model farms, for example under the umbrella of the National Action Programme to Combat Desertification, demonstrating how to use and adapt different SICS in the region would effectively support farmers in learning and sharing experiences about these practices.

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POLICY RECOMMENDATIONS

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SUBSIDISE TRANSITION TO PRACTICES BENEFITING SOIL HEALTH

SETTING UP A SYSTEM FOR GRANTS DISTRIBUTION

Subsidise transition to practices benefitting soil health:

The uptake of certain SICS, such as cover cropping, enhanced efficiency irrigation and reduced tillage, might require upfront investments, such as the purchasing of additional seeds and new machinery. Grants should be made available to farmers buying new equipment to implement these practices or groups of farmers intending to set up a 'machinery exchange'. Such an exchange could also be set up and managed by the regional/local farm advisory services or municipalities.

STRENGTHEN POLICY ENFORCEMENT

STRENGHTENING AND EXPANDING COMPLIANCE CHECKING MECHANISMS

Strengthen policy enforcement:

While it was found that there are a number of policies already in place that – directly and indirectly - regulate and incentivse different SICS, stakeholders report that outcomes on soil health are limited due to weak enforcement mechanisms. It is clear mechanisms for checking compliance with existing regulations need to be strengthened and expanded.

MAKE INCENTIVES MORE EFFECTIVE BY SIMPLIFYING APPLICATION PROCESS

SIMPLIFYING PROCEDURES FOR FARMERS

Introduce better designed economic incentives to counter costs associated with SICS:

Evidence suggest that economic incentives might not be a key driver for SICS adoption with the current system perceived to be overly bureaucratic by farmers. With the post-2020 CAP, new funding rules funding rules will be introduced. The Good Agricultural Environmental Conditions (GAECs) now offer a greater chance for soil protection. New conditions with the potential to improve soil health have been added, e.g., the new GAEC 7 requires "No bare soil in most sensitive period(s)" (European Commission, 2018b). Cover crops will be an important strategy for meeting this requirement. The payment agencies should seek to simplify procedures for farmers applying for CAP payments in order not to deter farmers from adopting SICS.

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