Overview of SoilCare Project
17 May, Palencia

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Milieu, Brussels
Context

Concerns:

- **Profitability** of crop production
- Competitiveness of EU farmers
- Increasing cost of external inputs

- **Environmental sustainability** of agricultural systems
- Decreasing soil quality
- Climate change impact on agriculture and vice versa
What is SoilCare?

- 5 year Horizon 2020 project
- 1 March 2016 – 28 February 2021
- Budget of over 7 and half million euro
- 28 partners from 18 countries
- Building on earlier work (e.g. SmartSOIL, RECARE) and collaborating with ongoing projects (e.g. LANDMARK, iSQAPER)
Problem

Soil Improving cropping systems exist  

**BUT**

Low uptake by farmers

What are the reasons for it and what can be done?
Objective

1. Identify,
2. Test,
3. Evaluate Soil-improving cropping systems (SICS) in 16 study sites across Europe
# 16 Study Sites

<table>
<thead>
<tr>
<th>Study Site</th>
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<tbody>
<tr>
<td>1. Flanders, BE</td>
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<tr>
<td>2. Akershus, NO</td>
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<td>3. Keszthely, HU</td>
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<td>4. Frauenfeld, CH</td>
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<td>5. Viborg, DK</td>
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<td>6. Loddington, GB</td>
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<td>7. Tachenhausen, DE</td>
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<td>8. Draganesti Vlasca, RO</td>
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<td>9. Legnaro, IT</td>
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<td>10. Szaniawy, PL</td>
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<td>11. Caldeirão, PT</td>
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<td>12. Chania, Crete, GR</td>
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<td>13. Orup, SE</td>
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<td>14. Prague-Ruzyně, CZ</td>
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<td>15. Almeria, ES</td>
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<td>16. Brittany, FR</td>
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What are SICS?

- Includes: *crop type, crop rotation, and the agronomic management techniques*
- Criterion: improvement of soil quality
- 3 SICS per site tested
## Components of SICS for soil quality, productivity and sustainability

<table>
<thead>
<tr>
<th>Nr</th>
<th>Components of SICS</th>
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<tbody>
<tr>
<td>A</td>
<td>Crop rotations (1:≥3) + cover crops</td>
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<tr>
<td>A1</td>
<td>Cereals with oilseed crops</td>
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<tr>
<td>A2</td>
<td>Cereals with beans and peas</td>
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<tr>
<td>A3</td>
<td>Cereals with leys and/or legumes</td>
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<tr>
<td>A4</td>
<td>Cereals with root crops</td>
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<tr>
<td>A5</td>
<td>Cereals with vegetables</td>
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<tr>
<td>A6</td>
<td>Rotations with horticultural crops</td>
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<tr>
<td>A7</td>
<td>Mixed crop – animal systems</td>
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<td>A8</td>
<td>Permanent cropping systems</td>
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<tr>
<td>B</td>
<td>Integrated nutrient management</td>
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<tr>
<td>C</td>
<td>Enhanced efficiency irrigation</td>
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<tr>
<td>D</td>
<td>Controlled drainage</td>
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<td>E</td>
<td>Reduced tillage</td>
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<td>F</td>
<td>Integrated pest management</td>
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<tr>
<td>G</td>
<td>Smart weed control</td>
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<td>H</td>
<td>Smart residue mulching</td>
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<tr>
<td>J</td>
<td>Controlled trafficking</td>
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<tr>
<td>K</td>
<td>Integrated landscape management</td>
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Set-up of SoilCare

WP1
Management

WP2
Analysis of CS, based on LIT, LTE
- Applicability/profitability
- Benefits/drawbacks
- Soil improvement potential

WP4
Methodology to monitor and assess soil-improving CS in Study Sites

WP3
Multi-stakeholder platforms, participatory selection of CS, and adoption

WP5
Implementation, monitoring and assessment of CS
- Environmental
- Socio-economic
- Overall

WP6
Upscaling and synthesis
- Which CS where?
- Profitability/sustainability
- Adoption at EU scale

WP7
Policy analysis and support

WP8
Dissemination

SoilCare
WP7: Methodology, current progress and upcoming activities

• Core question: To what extent do policies contribute to the adoption of soil-improving agricultural practices?
Objectives & tasks

1. To **review** current policies with relevance for soil quality, soil degradation, and adoption of cropping systems.

2. To **select** policy alternatives to enhance soil quality/prevent land degradation in agriculture at Europe, at national, sub-national and local scales.

To **promote** policies that can increase adoption of soil-improving cropping systems.
**Soil explicit/implicit in aims, objectives, or instruments.**

44 policies identified:

**Climate change policies:**

**Resources:** Resource Efficiency Roadmap, Action plan for a Circular Economy, Fertiliser Regulation

**Land Degradation & Protection:** Soil Thematic Strategy, Soil Sealing Guidelines, LULUCF Decision

**Agricultural Policy:** CAP Direct payments & Market Measures, RDP, CMO Regulation, Horizontal regulation and Organic Regulation

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**Water & maritime policies:** Action on Water Scarcity & Drought, WFD, FD, GWD, Nitrates Directive, Drinking Water Directive


**Biodiversity policies:** Sustainable Use of Pesticides Directive

**Soil quality explicit/implicit in aims, objectives, or instruments.**

27 policies identified:

**Resources:** Fertiliser Regulation

**Land Degradation & Protection:** Soil Thematic Strategy, Soil Sealing Guidelines, LULUCF Decision

**Agricultural Policy:** CAP Direct payments & Market Measures, RDP, CMO Regulation, Horizontal regulation and Organic Regulation

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**Water & maritime policies:** Action on Water Scarcity & Drought, WFD, FD, GWD, Nitrates Directive, Drinking Water Directive


**Biodiversity policies:** Biodiversity Strategy, Habitats and Birds Directive, Supporting policies: EIA, SEA, Funding instruments: ERDF, H2020, Life+ Programme

Other: 7th EAP

**Agricultural practices explicit/implicit in aims, objectives, or instruments.**

20 policies identified:

**Resources:** Fertiliser Regulation

**Land Degradation & Protection:** Soil Thematic Strategy, LULUCF Decision

**Agricultural Policy:** CAP Direct payments & Market Measures, RDP, Horizontal regulation and Organic Regulation

**Water & maritime policies:** Action on Water Scarcity & Drought, WFD, FD, GWD, Nitrates Directive, Drinking Water Directive


**Biodiversity policies:** Biodiversity Strategy, Supporting policies: EIA, SEA, Environmental Liability Directive, Funding instruments: CF, ERDF, ES, H2020, Life+ Programme

Other: 7th EAP

**Addressed to national and (sub)regional policy-makers and/or farmers.**

16 policies identified:

**Resources:** Fertiliser Regulation

**Agricultural Policy:** CAP Direct payments & Market Measures, RDP, Horizontal regulation and Organic Regulation


**Waste policies:** Sewage Sludge Directive

**Chemicals policies:** Sustainable Use of Pesticides Directive

**Biodiversity policies:** Habitats and Birds Directive

**30 excluded:**


**Resources:** Resource Efficiency Roadmap, Action plan for a Circular Economy

**Land Degradation & Protection:** Soil Thematic Strategy, LULUCF Decision, Soil Sealing Guidelines

**Agricultural Policy:** CMO Regulation

**Forestry:** Forest Action Plan and Forest Strategy

**Water & maritime policies:** Action on Water Scarcity & Drought, WFD, FD, GWD


**Biodiversity policies:** Biodiversity Strategy, Supporting policies: EIA, SEA, Environmental Liability Directive

**Funding instruments:** CF, ERDF, ES, H2020, Life+ Programme

Other: 7th EAP, CPR, INSPIRE Directive
Multi-actor approach

• Promising SICS selected through multi-stakeholders workshops at 16 locations

• Implemented cropping systems will be monitored with stakeholder involvement, and will be assessed *jointly by scientists and farmers*
Impacts of SoilCare

1. SICS have been identified across Study Sites,
2. Insight is obtained on how barriers to adopt these techniques can be minimized and overcome, and
3. opportunities for upscaling of adoption at European level are developed.
THANK YOU!
QUESTIONS? FEEDBACK?

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