

# SoilCare final conference

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Report number: **39**  
Deliverable: **D8.3**

Report type: **Scientific Report**  
Issue date: **07/09/2021**  
Project partner: **University of  
Gloucestershire, UK**

Version: **1.0**

SoilCare



## DOCUMENT SUMMARY

### Project Information

Project Title:	Soil Care for profitable and sustainable crop production in Europe
Project Acronym:	SoilCare
Call Identifier:	H2020-SFS-2015-2b
Grant agreement no.:	677407
Starting Date:	01.03.2016
End Date:	31.08.2021
Project duration	66 months
Web-Site address:	<a href="http://www.soilcare-project.eu">www.soilcare-project.eu</a>
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Deliverable Number:	D8.3
Work Package:	WP8
WP Leader:	University of Gloucestershire, United Kingdom
Nature:	PU
Dissemination:	Document
Editor (s):	Rudi Hessel
E-Mail(s):	<a href="mailto:Rudi.hessel@wur.nl">Rudi.hessel@wur.nl</a>
Telephone Number(s):	+31 317 486530
Report Due Date	01-07-2021
Report publish date:	07-09-2021
Copyright	©2021 the SoilCare project and Partners Copyright notice and disclaimer: <a href="http://tinyurl.com/soilcare-disclaimer">http://tinyurl.com/soilcare-disclaimer</a>

No.	Participant organisation name	Abbreviation	Country
1	Wageningen Environmental Research	WEnR	Netherlands
2	University of Newcastle upon Tyne	UNEW	United Kingdom
3	Katholieke Universiteit Leuven	KUL	Belgium
4	University of Gloucestershire	UoG	United Kingdom
5	University Hohenheim	UH	Germany
6	Research Institute for Knowledge Systems	RIKS	Netherlands
7	Technical University of Crete	TUC	Greece
8	Joint Research Centre	JRC	Italy
9	University of Bern	UNIBE	Switzerland
10	Milieu LTD	MLTD	Belgium
11	Norwegian Institute of Bioeconomy Research	NIBIO	Norway
12	Bodemkundige Dienst van België	BDB	Belgium
13	Aarhus University	AU	Denmark
14	Game & Wildlife Conservation Trust	GWCT	United Kingdom
15	Teagasc	TEAGASC	Ireland
16	Soil Cares Research	SCR	Netherlands
17	Instituto Politecnico De Coimbra	IPC/ESAC	Spain
18	National Research and Development Institute for Soil Science, Agrochemistry and Environmental Protection	ICPA	Romania
19	University of Padova	UNIPD	Italy
20	Institute of Agrophysics of the Polish Academy of	IAPAN	Poland
21	Wageningen University	WU	Netherlands
22	University of Pannonia	UP	Hungary
23	Swedish University of Agricultural Sciences	SLU	Sweden
24	Agro Intelligence Aps.	AI	Denmark
25	Crop Research Institute	VURV	Czech Republic
26	University of Almeria	UAL	Spain
27	Fédération Régionale des Agrobiologistes de Bretagne	FRAB	France
28	Scienceview Media BV	SVM	Netherlands
29	Milieu Consulting SPRL	Milieu	Belgium

## **D8.3 SoilCare Final Conference**

*Jane Mills, Charlotte Chivers, Matt Reed, Julie Ingram and Jasmine Black, Countryside and Community Research Institute, University of Gloucestershire*

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## 1 Introduction

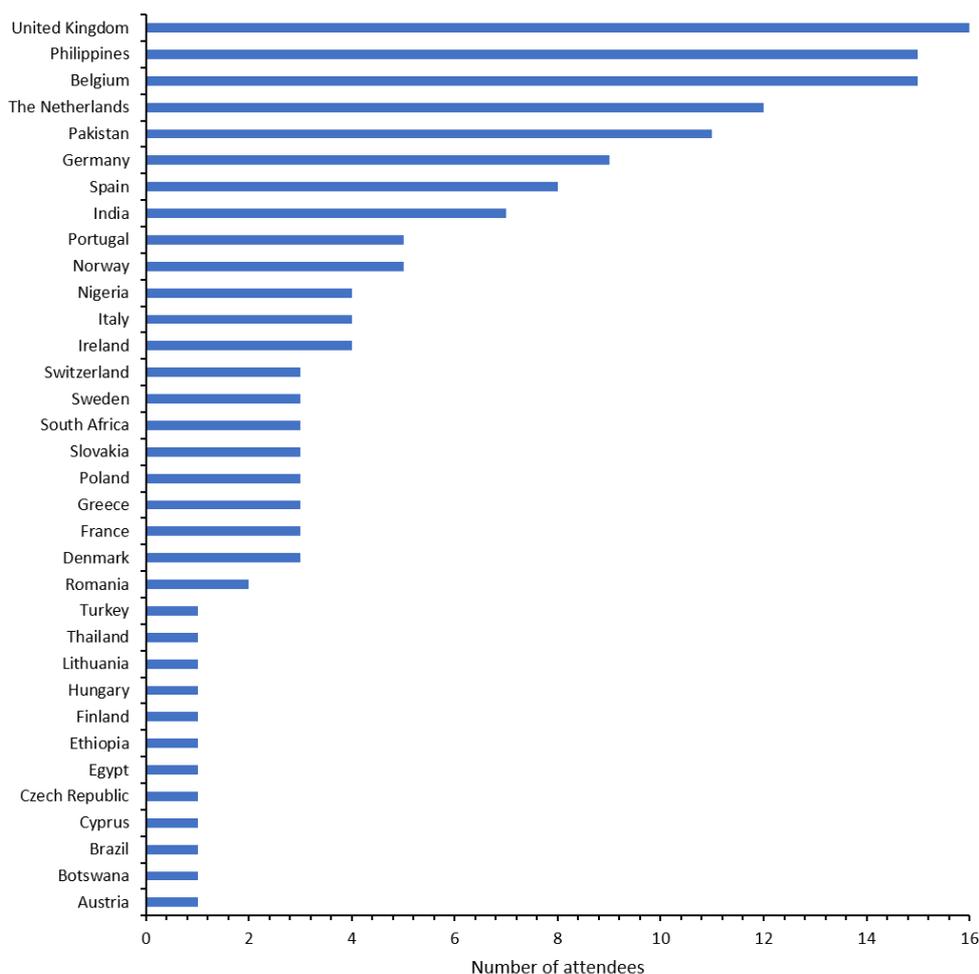
The aim of the report is to provide details of two final dissemination events undertaken with the SoilCare project. The first event was an online full day conference aimed at policy-makers and the second event involved two sessions at the virtual Eurosoil 2021 conference targeted at scientists.

## 2 SoilCare Final Conference, 24 June 2021: Summary

What are Soil-improving cropping systems (SICS)? What can SICS achieve? What tools has SoilCare developed to help policy-makers in their decision-making about the implementation of soil-improving practices? What are the barriers to the uptake of soil-improving practices and how can we improve policies both at the EU and national level to secure their delivery? These questions were the focus of the final conference of the SoilCare project that took place in a virtual setting ([Crowdcast](#)) on 24<sup>th</sup> June 2021.

The conference brought together policymakers, farmers, farmer representatives, advisors, SMEs, NGOs, members of the public, and researchers from 34 countries worldwide (Figure 1). At its peak, there were 153 participants, with numbers fluctuating throughout the day.

**Figure 1. The number of SoilCare final conference attendees from different countries.**



The presentations and video clips for all of the conference sessions are available [here](#).

## 2.1 Conference overview

### Welcome

The conference opened with a presentation from the project coordinator, Rudi Hessel of Wageningen Environmental Research, who provided the context and aims and objectives for the project and some summarised results. Mirco Barbero, DG Environment, then presented the policy context and provided details of EU policies that have been introduced to support soils (Figure 2).



Figure 2. Mirco Barbero (DG Environment) provides an overview of the importance of achieving healthy soils, thus setting the context for the SoilCare project.

### Session 1: Soil-improving cropping systems and their outcomes

This session started with a [short, animated video](#) that explains what soil-improving cropping systems are, a key concept used by SoilCare (Figure 3).

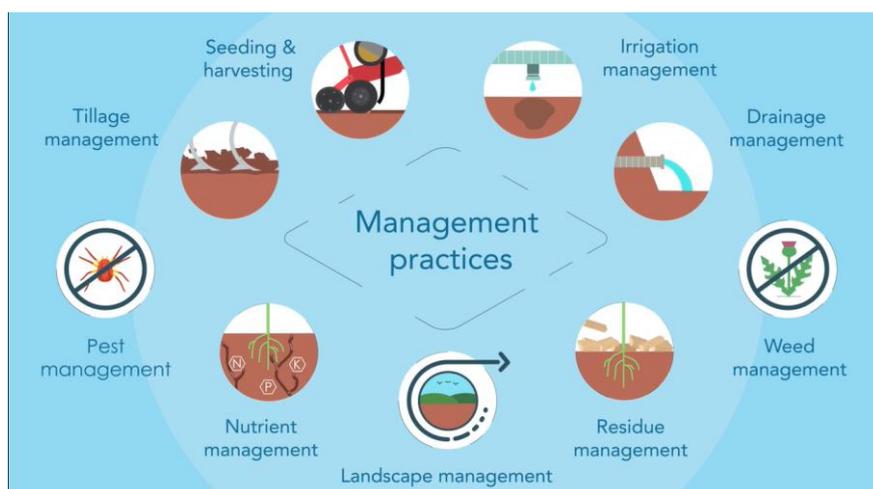


Figure 3. Screenshot from the two-minute SICS explainer video which provides an overview of the management practices included in SICS.

Jane Mills, SoilCare dissemination lead, then introduced three of the SoilCare study sites leaders from Italy (Ilaria Piccolo), Poland (Magdalena Frąć) and Belgium (Annemie Elsen). These study site leaders were interviewed by Jane to explore the various SICS that they had trialled during the course of the project and to examine their results. In addition, they were asked about the factors that might promote or prevent the uptake of these practices which were identified by their stakeholders. Finally, two short videos were shown which depict farmers involved in the [Spanish \(Rafael Alonso\)](#) and [UK \(Phil Jarvis\)](#) experiments discussing the importance of maintaining good soil quality through the use of SICS.

During the Q&A session after these presentations, the speakers answered several questions posed by delegates. These questions focused on the appropriate age of woodchips and the impact on soil dynamics, the use of glyphosate in no-till experiments and whether soil biodiversity data had been collected at different depths, especially as sub-soil organic content is important for long-term carbon sequestration.

## Session 2: Identifying barriers to the use of soil-improving cropping systems

During this session, Melanie Muro from Milieu presented the findings from SoilCare on the barriers to the use of soil-improving cropping systems (Figure 4). Her presentation identified the common barriers to the adoption of SICS as a basis for identifying and designing effective and feasible policy actions.

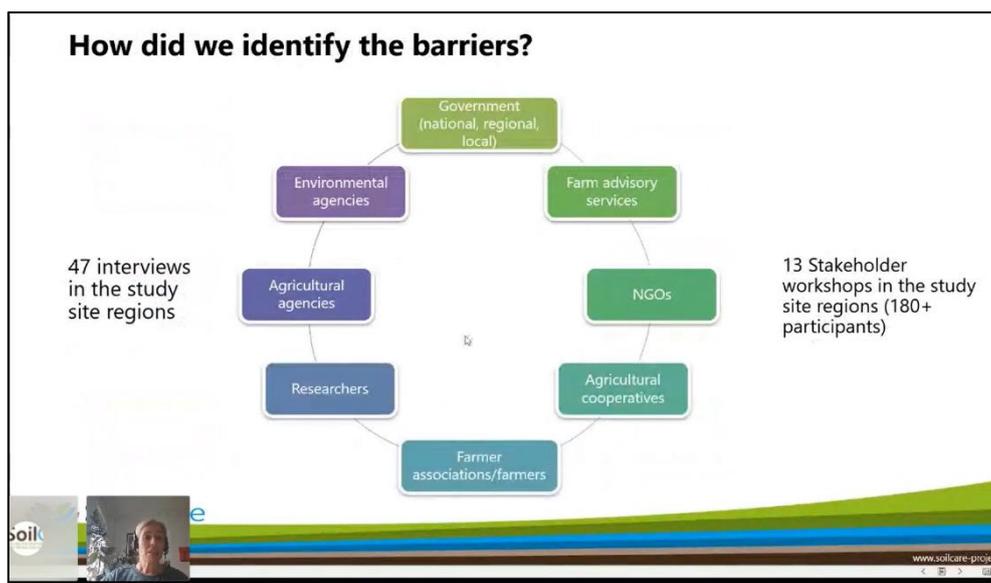


Figure 4. Melanie Muro of Milieu describes how barriers to the uptake of SICS were identified during the SoilCare project.

## Questions

In the Q&A session, Melanie was asked whether there are differences in the types of barriers for the different practices? Melanie presented an additional slide that indicated the relative importance of the different types of factors for different categories of soil improving cropping systems. Economic factors were important for soil-improving crops or soil cultivation, practices which might require initial investments. Knowledge and information played a more important role than policy.

Another question asked was: ‘How do we make SICS the new normal?’ Melanie responded by stating that the wide range of identified factors suggests that there is no one solution; instead, a mixture of solutions are needed. She then reiterated that SICS need to be looked at from a systemic perspective, creating an environment that facilitates the transition. The onus is not just on farmers to change. Whilst it is important to provide incentives to farmers, we also need to think about changing consumer choices and the value chain.

During this Q&A session, a poll was undertaken by the audience which asked them to identify which barrier to the uptake of soil-improving cropping systems they perceived as key (Figure 5) .

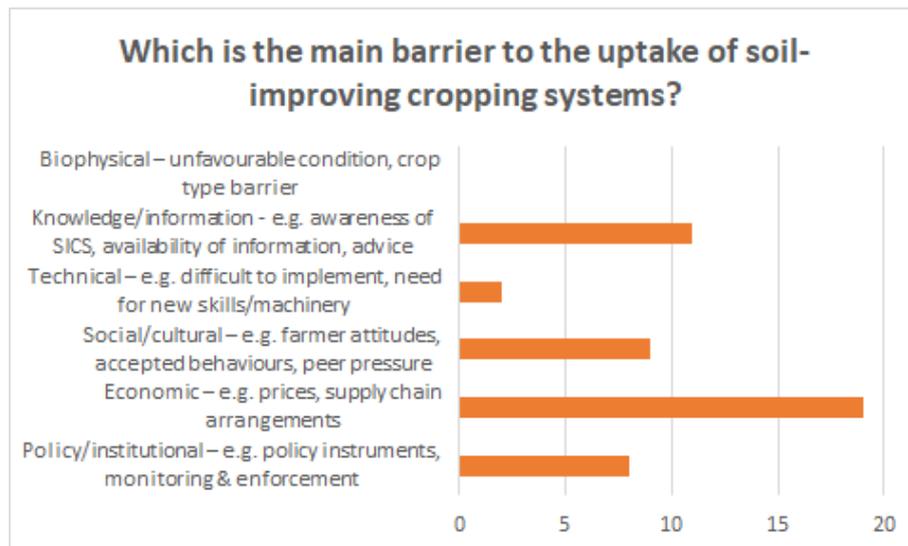


Figure 5. Poll of participants asking them to determine the main barrier they perceive as preventing the uptake of SICS

### Session 3: Tools for policy-makers

Hedwig van Delden from RIKS introduced three tools that have been developed in SoilCare to help decision-makers.

- The first tool, a SICS potential index, can be used to identify where in Europe can which SICS be applied and where is it relevant to apply them. The index combines European data layers and expert knowledge on the applicability, transferability and relevance of measures under different conditions, complemented with a description of the social, economic and institutional factors influencing the adoption of the SICS.
- The second tool is the SoilCare integrated assessment model which provides input to SICS potential index tool and assists in identifying how effective various SICS are under different conditions.
- The third tool is the SoilCare exploratory future scenarios developed at an European scale within the project. These scenarios consider socio-cultural trends, economic development, technology and knowledge transfer, political situation and population trends. The aim of the scenarios is to enhance the understanding of future uncertainties and help policymakers better understand the range of plausible future pathways and ‘future-proof’ policy actions.

In the Q&A session, a question was asked whether the SICS potential index could be applied at a local level. In her response, Hedwig explained that the approach is very generic and therefore has wide applicability, but she recommended that for application at the local or regional level base maps of those local areas should be used as they are more accurate for the local context.

A poll was undertaken by the audience to gauge their thoughts on how important it is that policymakers explore different future pathways when developing policy actions (Figure 6). Fortunately, for Hedwig and her work on exploratory scenarios, the participants thought such work was very or quite important.

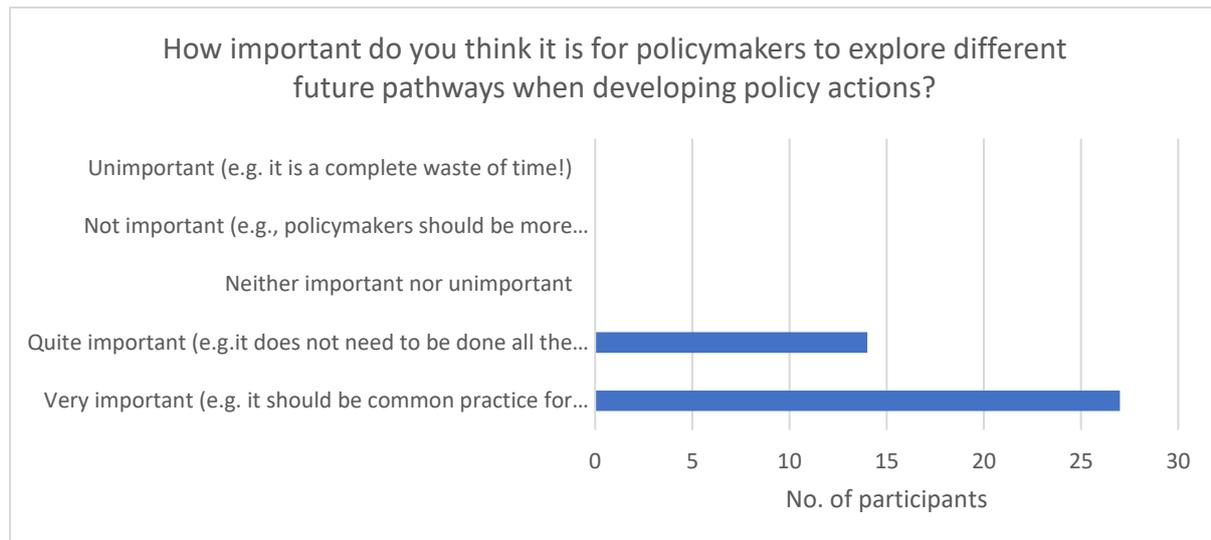


Figure 6. Poll undertaken by delegates exploring how important they believe it is that policymakers explore different future pathways when developing policy actions.

#### Session 4: Policy recommendations

Melanie Muro returned to the screen to present the SoilCare draft policy recommendations. These were based on five broad recommendations:

- Defining long-term ambitions and targets
- Increasing coherence and exploit synergies between policies more effectively
- Designing targeted economic instruments that facilitate a transition to sustainable practices and reward environmental benefits delivered
- Strengthening existing and establish new opportunities for learning and knowledge exchange for farmers
- Strengthening monitoring and enforcement

#### Final panel session

Melanie was joined by Mirco Barbero and Alfred Grand, a farmer from Austria, for a panel discussion.



The panellists were asked the questions “In your view which of these broad recommendations do you think will be most important for increasing the uptake of SICS”,

Mirco stated that all 5 recommendations were good.

- With the first recommendation, targets are currently being defined and the legally binding instrument on nature targets is coming, which is promising.
- Increased coherence will be delivered through the new Soil Strategy as it will ensure that soil policy is consistent with other policies. The new Soil Strategy will be reviewed by the whole Commission which will ensure consistency between the policies.
- Concerning targeted economic instruments. Mirco sees carbon farming as promising, although many options still need to be developed. Solutions that address both climate change and biodiversity are the best options.
- With regards to strengthening monitoring, the EU Soil Observatory has been launched and will soon be developing initiatives, possibly together with the Soil Strategy.
- With regards to strengthening knowledge exchange, this will always be needed and it is important to build on what has already been done

A mix of all these recommendations will lead to a tasty risotto!

Alfred agreed that all of the recommendations are important to address. On his farm, he tries to adopt a systemic approach because they are facing complex problems. He believes it is important to work together with all stakeholders, farmers, scientists, practitioners, and policymakers. He thinks there is a particular need to create new opportunities for learning and knowledge exchange because there is a huge need to raise awareness of the issue and to demonstrate the benefits. He believes that as soon as the farmers see the benefits of making the changes, they do not need incentives. If they see the benefits for the next generation, and society, then they will change their behaviour and practices.

Melanie believes that whilst all the factors are important, the use of economic instruments and information and learning are crucial. It is important to understand the benefits of costs of these practices. She also believed that something is missing, the need to think more about the consumer side, which might be added as the recommendations are refined.

Alfred added that he was not a fan of carbon farming as all the risk is put on the farmer’s work and even farmers are not sure about the results. The current focus is on carbon but there are other ecosystem and soil functions that benefit from soil-improving practices. If sustainable and regenerative practices are used for 10 years, they not only sequester carbon but also reduce soil

erosion and increase soil biodiversity and other soil functions. There should not just be a focus on carbon credit, but a focus on the bigger picture and a more systemic approach.

Whilst the panellists were responding to this question, the audience participated in a poll: “Which of the priority actions identified by the stakeholders do you consider most important for the adoption of SICS?” (Figure 7).

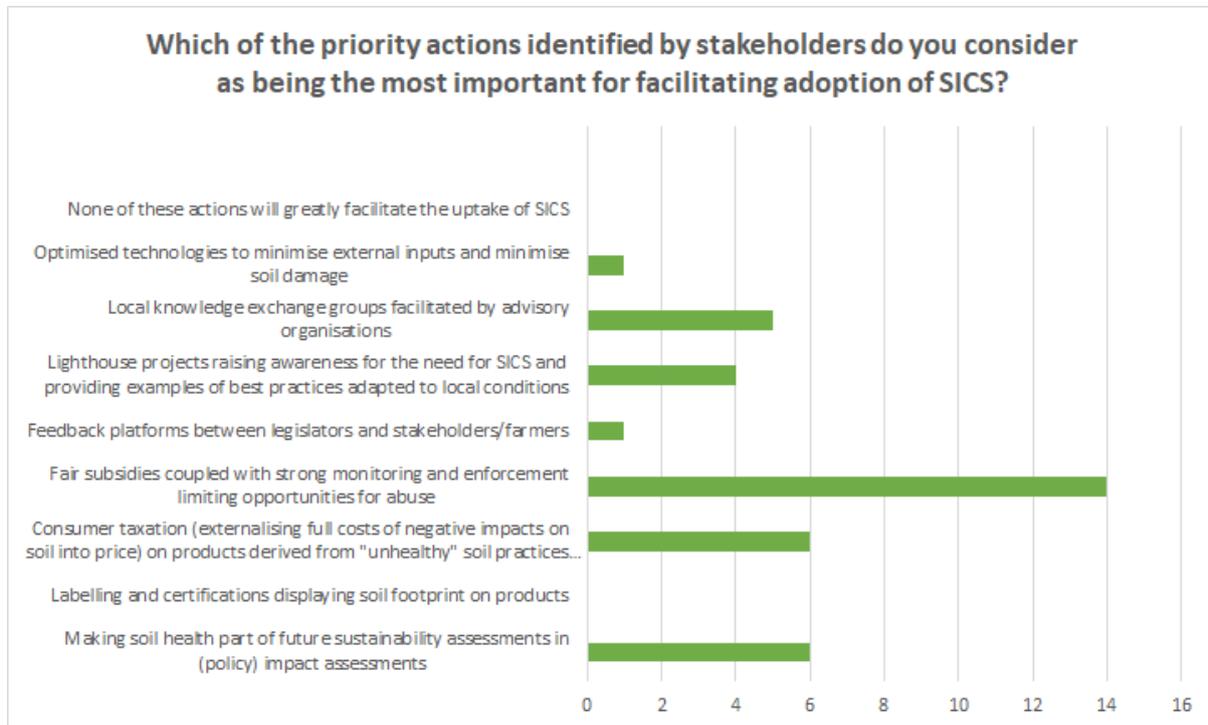


Figure 7. Poll answered by delegates surrounding the priorities they consider as being important for facilitating the adoption of SICS.

In response to the poll results, Alfred commented on the lighthouse projects suggestion as he is a lighthouse farmer himself. He sees it as a great opportunity for not only on-farm research and trial but also to work with students and young people and get new perspectives on the farm. He believes it is important for enthusiastic farmers to work together with researchers as currently there is a huge communication gap between researchers and farmers. These enthusiastic farmers can then act as a bridge to other farmers.

### Questions to panellists

**How can a farmer jump-start soil biology?** Alfred explained that there are several methods available. A new innovative approach he uses is to seed coat with microbiology. They add rhizobia to the seed by adding the whole diversity of vermicompost or earthworm compost to the seed. They use 1 litre of compost per hectare which can increase soil biodiversity. He adds that there is still a lot of research needed but it is a wonderful method that is easy to apply without the need for expensive equipment.

**Did SoilCare or any project you know of work on offering SICS evidence platform that can be easily searched by practitioners.**

In response to this question, Mirco explained that this fragmentation is being overcome by working towards more coordinated and holistic governance, where the knowledge is coming together. The Soil Strategy will continue in that direction, as well as the Mission on Soil Health and Food. Melanie said

that no such platform exists, but that there is more networking and it is becoming easier to find information. She agreed that it would be good to have just one database with all the information in one place. Several existing platforms were mentioned in the chat. One person suggested a soil equivalent of <https://www.conservationevidence.com/> was needed, another referred to AskValerie [https://www.ask-valerie.eu/#/en\\_EN/search](https://www.ask-valerie.eu/#/en_EN/search), which made a start at collating research outputs and another mentioned WOCAT as a useful resource <https://www.wocat.net/en/>. However, it was also suggested that some measure of evidence relevance and robustness is important with these repositories.

### **Are there plans to improve the flexibility of AES as part of CAP reform?**

Mirco said that if there were plans they would be known already. At the moment they are focusing on getting agreement on the current CAP at the institutional level, but they are also starting to think about the next CAP. Alfred commented that it was a difficult topic, he would like to see more enthusiasm and engagement. The Commission is pushing forward but the Member States (MS) are holding back, he feels it could be more ambitious. Melanie stated that on paper there is scope for flexibility for MS, but this flexibility is not being used at the moment, because the negotiations are still happening. It appears that MS is not going to radically change its approach.

### **How does policy thinking reconcile between declining yields for food but greater sustainability in the soils?**

Alfred does not think this question is logical. In his opinion, we can feed the world organically if we change our consumption behaviours through reducing meat consumption, producing less fodder and reducing food waste. He believes the bar can be raised in terms of sustainability, biodiversity and climate change adaptation whilst feeding the world.

According to Mirco, the current answer of the Commission is the Farm to Fork strategy where they promote sustainable food systems trying to combine all the different requests that the sector is confronted with.

Melanie added that we are caught in a narrative of a food crisis. However, it is really about changing consumption patterns and being more efficient about how we produce our food.

Alfred explained that he often gets a follow-up question that it is not possible to change the behaviour of people, but the response to the Covid-19 pandemic has shown that it is possible to change behaviour quickly and at a large scale.

### **Engagement throughout the conference**

Throughout the conference, further questions were posed to which members of the SoilCare team provided a written response. There was also excellent engagement by the audience through the chat function. Figure 8 provides an overview of the chat activity throughout the conference (with a gap indicating the lunch break).

## Chat activity

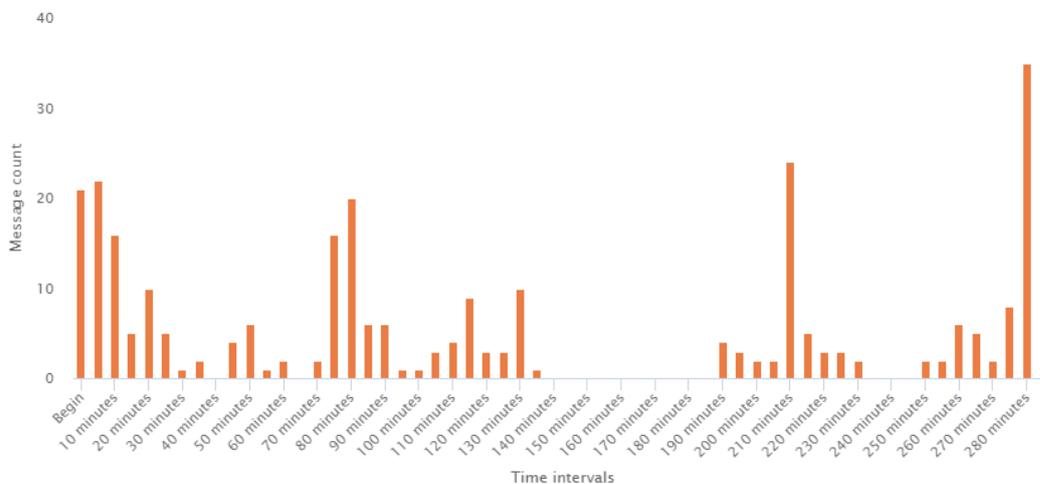


Figure 8. Chat activity throughout the final SoilCare conference

## 2. Additional features of the conference

### Call to Action

During the presentations and breaks the audience could click on a Call to Action button that would take them to relevant resources on the SoilCare website, or to the two Padlets which contained all the [experiment fact sheets](#) and [policy-related outputs](#). During the conference, 146 attendees (95%) clicked on these Call to Action buttons at least once.

### Upvoted questions

To ensure the most pertinent questions were asked during the Q&A and panel session(s), delegates were encouraged to ‘upvote’ questions posed during the presentations. This enabled the chairs of these sessions to prioritise questions.



10

VOTES

270m 37s → [Edit timestamp](#)

How does policy thinking reconcile between declining yields for food but greater sustainability in the soils?

View Answer


Share Answer

### Social media activity

Several posts were added across the various SoilCare social media platforms (Twitter, Facebook, LinkedIn) throughout the conference to gain traction. An official hashtag, ‘#SoilCareConf’ was used to ensure social media posts were easy to locate.

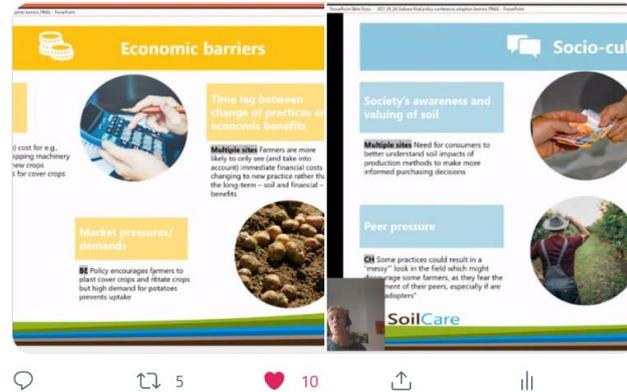


SoilCare @SoilCare\_eu · Jun 24

More info from Melanie Muro on [#economic](#) barriers and [#social](#) [#cultural](#) barriers for [#sustainable](#) soil practices:

[#SoilCareConf](#) [#soilhealth](#) [#biodiversity](#)

[@EU\\_ENV](#) [@DefraSoils](#) [@SoilsAlliance](#) [@EU\\_Commission](#) [@eurosoil](#) [@GermanEnvAgency](#) [@Ferrero\\_EU](#) [@soilbelgium](#) [@AgroBioBretagne](#)



### Prize-giving ceremony

Delegates were offered the opportunity to win one of three soil-related books during the conference. This was used to increase audience retention and engagement (figure 9).

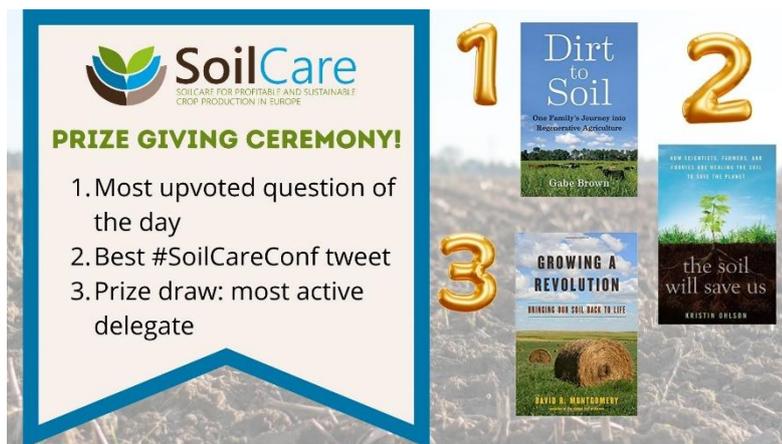


Figure 9. Overview of the prizes offered for highly engaged delegates during the SoilCare final conference

### Post-conference Fireside discussion

Immediately after the end of the conference, delegates were invited to join a 'Fireside discussion' to ensure they were able to ask additional questions and to offer a networking opportunity. In total, 24 people joined and were split into three breakout groups: policy, SICS, and general networking. This session lasted just under an hour and largely consisted of SoilCare partners networking and discussing their findings.

### 3 EuroSoil2021 Conference Sessions

SoilCare ran two sessions at the Eurosoil 2021 conference that took place online between 23-27 August 2021.



**Come to our SoilCare sessions at Eurosoil 2021!**

Can crop production in Europe be sustainable and profitable? Insights from the SoilCare project  
26/08/2021, 9:45-11:15 CET

Novel approaches and methods for engaging with stakeholders: Addressing soil functions  
26/08/2021, 14:15-15:45 CET



#### 3.1 Session 1: CAN CROP PRODUCTION IN EUROPE BE SUSTAINABLE AND PROFITABLE? INSIGHTS FROM THE SOILCARE PROJECT

In the first session the findings of the SoilCare project were presented and discussed. The convenor of the session was Rudi Hessel from Wageningen University and Research and Jane Mills from CCRI, University of Gloucestershire and was Matt Reed, from CCRI, University of Gloucestershire was the moderator. The numbers of attendees whilst fluctuating throughout the session, peaked at 52, with most staying until the end.

The speakers were:

**-Rudi Hessel, Wageningen Environmental Research: SoilCare for profitable and sustainable crop production in Europe.** Rudi provided an introduction to the SoilCare project, followed by a screening of the SoilCare animated video explain the concept of Soil-improving cropping systems.

**-Guido Wyseure, KU Leuven: Methodology and results of the monitoring and assessment of SICS.** Guido presented the approach to monitoring and assessment by referring to 6 challenges that were overcome within the project: 1) Setting up and monitoring of the short-term experiments; 2) Combining all the results from the study sites 3) Analysis of 28 experiments and 137 treatments 4) Short-term experiments in a climate changing context 5) Reports of the short-term experiments 6) Overall synthesis of all the experiments with a socio, economic and environmental context.

After the presentation from Guido Wyseure, two of the SoilCare study site leaders, Annemie Elsen from Belgium and Jannes Stolte from Norway joined a panel session to answer questions about the experiments.

The first question posed to the panelist was how to overcome Challenge 6 mentioned by Guido and integrate the various forms of data from the experiments? Annemie stated that whilst it was useful to benchmark your study site (SS) results with other SS, they found that each SS had its own particularities so that there was a need to adapt and improve SICS as much as possible to local conditions, not just bio-physical conditions, but even more importantly the economics, legislation and the farmers you are working with. Jannes agreed it was a challenge to compare data from different areas and also different topics. The project itself was structured so that the stakeholders decided which SICS to be looked at which resulted in different systems that are difficult to compare. The experiments were clustered into 4 groups, but even within these clusters the approach was different for each site.

The second question asked was what lessons were learnt from implementing the project in the study sites that are broadly applicable to other projects. Annemie replied that in their study site in Belgium, what proved really useful was the intensive stakeholder involvement throughout the whole process, from the beginning trying to determine which SICS to test but also during the experiments having discussion with different types of stakeholders and then evaluating the SICS. They have learnt to involve stakeholders more in future projects as it enriches the science. Jannes agreed that research should be connected to farmers and that is what SoilCare tried to do and it worked very well.

Ioanna Panagea added that it is difficult to obtain robust results from just 2-3 years of monitoring but by involving the stakeholders, if they are interested in the work, they will continue with the experiment giving the scientists more data from the field beyond the project timeframe.

Jannes followed up by saying that the experiments also revealed that practicability for the farmer of using these new practices. For example, in Norway the climate determines the possibility of implementing a new practice. He added that the scientific biophysical results might not be statistically robust after such a short monitoring period, but the socio-cultural and economic results were clear. Guido also stated that he was not concerned about the lack of statistically significant results as the results over the many study sites are consistent with very few exceptions to the general trend.

**-Luuk Fleskens, Wageningen University: Policy tools for soil management impacts.** Luuk provided an overview of the 3 SoilCare policy tools: The SICS potential Index, SoilCare Integrated Assessment Model and the development of exploratory scenarios to enhance the understanding of future uncertainties.

After his presentation, Luuk was joined by Jantiene Baartman from Wageningen University for a Q&A session. The first question asked was what are the European maps useful for? Jantiene explained that they are tools for thinking, especially related to scale and resolution. They are modelling for the whole of Europe and as there is wide variation across Europe and these tools can look at this variation at the European-scale. However, they are not suitable for the local, catchment-scale which requires more detailed models. Luuk added that the climate is changing and therefore the practices may need to change and an important part of the work is to look forward and imagine what would happen in the future and be best prepared.

In answer to a question about who the audiences for the maps are, Luuk responded by saying mainly policy-makers but also scientists and farmer organisations and initiatives that try to promote new ways of farming and would like to know the biophysical limits of what they are proposing. A final

question asked about the motivation for using a 100 x 500 m grid. Jantiene explained it is a practical issue as the run-time for a more detailed model would take ages, also for a detailed model you would need input data at a smaller resolution for all components of the model which would be difficult to achieve. Also, the aim of the tool is to compare across Europe and not to undertake detailed analyses. A final question asked how do we deal with future uncertainties, such as climate change in these tools for thinking? Luuk explained that the climate change models are good at looking at the main trends, but what we also experience are a lot of extremes and the models are not that good in predicting these. If we use this model as an exploratory tool then many of the socio-economic changes are equally important and may have more impact on soil quality in the medium term than the biophysical changes caused by climate change. It is difficult to predict what will happen with climate change and therefore we have to plan for many scenarios which is where the modelling is really helpful.

**-Melanie Muro, Milieu Consulting: Barriers to the use of Soil-Improving Cropping Systems. What we learned and how this helps us define policy actions.** Melanie gave a presentation outlining the barriers to the use of SICS and policy recommendation. In a Q&A session Melanie was asked whether there were different barriers for different SICS. She explained that on the whole all types of barriers were mentioned by stakeholders across the board but there are some differences between SICS in relation to economic barriers due to different transition costs. A final question asked about the overall view of national governments to improve soil health or quality. Melanie suggested that at the EU-level there appears to be a great willingness to change and to strengthen soil policy but she could not speak for national government level. There are opportunities to move soil higher up the agenda through climate change policy and to connect to other issues that people are concerned about, such as food security and biodiversity. There are also opportunities to link to other policies but these links need to be strengthened.

### 3.2 Session 2: NOVEL APPROACHES AND METHODS FOR ENGAGING WITH STAKEHOLDERS: ADDRESSING SOIL FUNCTIONS RELEVANT TO SDG2

The second SoilCare session was convened by Julie Ingram and Jane Mills from CCRI, University of Gloucestershire. At its peak, 20 people attend the session.

The session aimed to share and reflect on experiences with multi-stakeholder participation, co-production of knowledge, and co-innovation for sustainable soil management in the agricultural context. Specifically to:

- Draw on and share collective experiences with participatory approaches in working with stakeholders in several soil research projects
- Build capacity in the research community for carrying out participatory research to equip them to meet future research challenges with soil management in the context of SDG2.

Julie Ingram opened the session with a short presentation explaining that the need for such stakeholder participation in research concerning soil management is increasingly evident, given the scope and complexity of soil processes, the multiplicity of actors who manage or make decisions about the soil, and the fragmented policy, research and advisory approaches concerned with managing soil functions (synergies and trade-offs) in agricultural systems.

A Methods Market was held with the following presenters:

**The Catchment Challenge - landscape co-design for soil functions, Lilian O’Sullivan, Teagasc, Ireland.** This work emerged from the LANDMARK project, a sister project to SoilCare. Lilian talked

about the interactive method that has been developed to co-design the landscape with stakeholders for soil functions, which is highly visual.

**Farmland earthworm monitoring (30-minute worms), Jackie Stroud, SRUC, Scotland** Jackie described the use of an earthworm surveying method with stakeholders to build their ecological knowledge. Questions from the audience and the responses were captured on a Mural board that was shared with the audience. The Mural board for this presentation is presented below.

## Earthworm monitoring (30 minute worms)

**What was most challenging about using this method?**

- Worm IDing, practical, physical sampling (takes around an hour) - this is why a photo upload option was added alongside a tutorial to help farmers to meet their knowledge needs

**How do we know if these methods work?**

Farmers already have to do worm counts, this was a way to share this in a better format - more dialogue, all at the same time, sharing knowledge.

**What were the outcomes for the research?**

30,000 earthworms counted during the survey, taken up by a lot of people trying ecotyping methods. Published in book chapters.

**In what way did it help stakeholders understand/learn, contribute knowledge?**

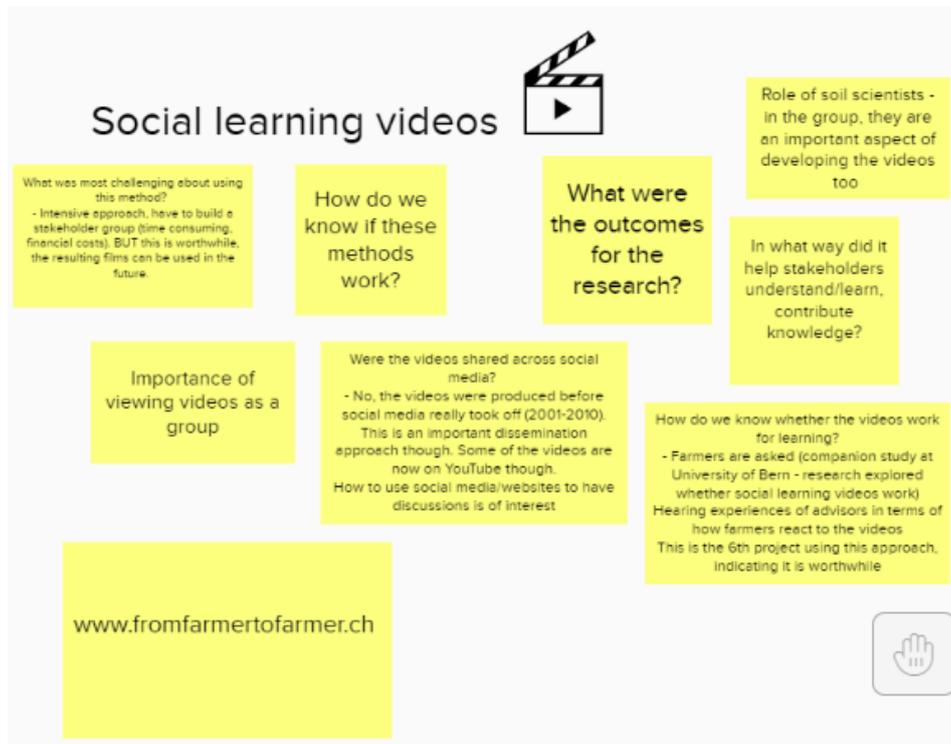
**Participants questions from the chat**

**Do you think earthworms are a good proxy for soil biodiversity? ✓**

**I didn't understand how you quantify the samples? Were the earthworms taken from a certain sample area? What about number vs. weight(biomass) of the worms?**



**Integrating Stakeholders by Co-producing films, Patricia Fry, BFH, Switzerland.** Patricia talked about her social learning video method which was used in a project to foster peer to peer learning in the context of sustainable soil management (specifically tillage) in Switzerland. Questions to Patricia are captured in the Mural below. The point was made that videos have to be both produced and consumed in groups for maximum benefit.



**Using deliberative multi-criteria techniques with stakeholders to select soil-improving cropping systems, Kamilla Svaalsveen, NIBIO, Norway.** This presentation outlined the stakeholder participatory approach used in SoilCare (see the poster presented below).

# Using deliberative multi-criteria techniques with stakeholders to select soil improving cropping systems (SICS)

By Kamilla Skaalsveen (for the SoilCare Project)

**Demand-driven innovation through the genuine and sufficient involvement of various actors all along the project: from the participation in the planning of work and experiments, their execution up until the dissemination of results and the possible demonstration phase.**

## Participatory selection of cropping systems:

### Workshop 1: Multi-stakeholder advisory panel establishment

- Introduce members of the panel to each other and the project
- Scope shared goals and SICS that can be reviewed alongside systems identified from scientific literature for later selection in field trials
- Check and (if necessary) supplement the membership of multi-stakeholder advisory panels



Figure 1. Problem tree analysis for reduced soil quality (left) and metaplan analysis with SICS suggested by the stakeholders (right).

*“Who has the power to enable us to do our research and achieve impacts, and who has the power to block our work?”*

### Workshop 2: Stakeholder analysis



High	<b>Context setters</b> – highly influential, but have little interest. Try and work closely as they could have a significant impact	<b>Key players</b> – must work closely with these to affect change
Low	<b>Crowd</b> – little interest or influence so may not be worth prioritising, but be aware their interest or influence may change with time	<b>Subjects</b> – may be affected but lack power. Can become influential by forming alliances with others. Often includes marginalised groups you may wish to empower
	Influence	
	Low	High
		Level of Interest

Figure 2. Example of stakeholder analysis matrix being completed during a workshop (left) and Interest-influence matrix used to identify stakeholders with differing levels of interest in and influence over your research (right).

- Identifying who has a stake in your work;
- Categorising and prioritizing stakeholders you need to invest most time with; and
- Identifying (and preparing you for) relationships between stakeholders (whether conflicts or alliances)

### Workshop 3: Selection of SICS for trial

- Critically discuss SICS that could be trialed in the study site
- Rank and short-list SICS
- Identify key influencers and preferred modes of communication that will enable effective dissemination of research findings
- Evaluate the extent to which participants learned from the workshop



Figure 3. Information about SICS that was discussed by the stakeholders.

### Workshop 4: Adoption of SICS

- Identify and describe key barriers/enablers facilitating the adoption of SICS, ad a change towards agricultural practices beneficial to soil in general, and;
- To identify actions at national and/or (sub) regional level which have potential to promote change



Figure 4. The enablers and barriers identified by stakeholders (above) and group of stakeholders identifying benefits and impacts of SICS (right).

### Workshop 5: Stakeholder feedback on preliminary findings

- Provide feedback on research findings from field trials of SICS to stakeholders
- Seek feedback and discuss the stakeholders' interpretation of the results

The **SOILCARE** project is a 5 year project aimed at identifying and evaluating promising soil improving cropping systems and agronomic techniques increasing profitability and sustainability across scales in Europe.

The **SOILCARE** project consortium consist of 28 partner institutes from 18 European countries. The **SOILCARE** project is coordinated by ALTERRA, Wageningen UR, The Netherlands.

• Starting date: March 1st 2016. • Ending date: February 28th 2020. • EU contract number: 677407

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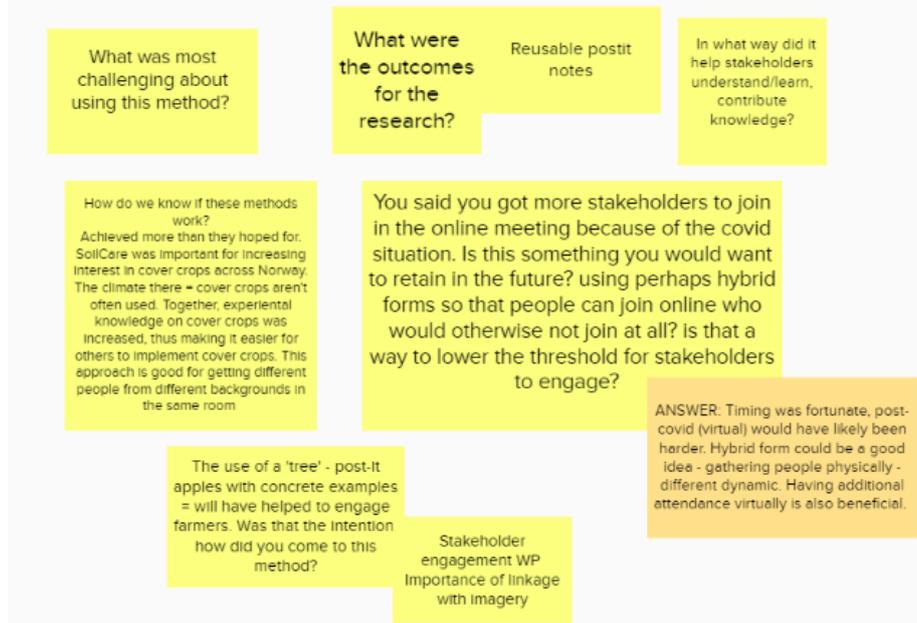
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This project is funded by the European Commission under the Horizon programme

Questions to Kamilla and responses are captured in the Mural board below.

## Using deliberative multi-criteria techniques



Following the presentations, Julie Ingram convened a discussion about experiences of stakeholder participation in research. This discussion was captured in the Mural board below. It was agreed that the range of methods presented illustrated the different sets of conditions, contexts and objectives being addressed by researchers. The focus on tools using the sensory dimensions of soil such as touch, smell and visual elements was notable

