

# **Breakout Session**

Knowledge transfer to farm advisors

November 22, 11:30-13:00

#MissionSoilWeek #MissionSoil #EUMissions



### Housekeeping rules

### WIFI

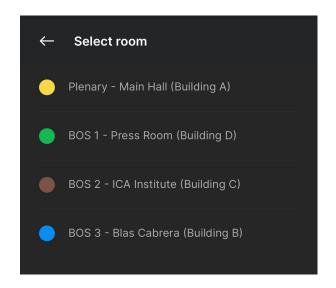
Network : EMSW

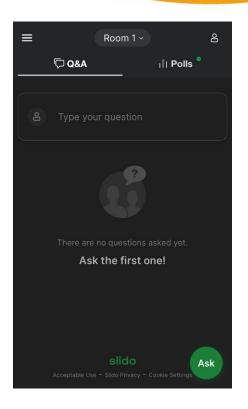
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### Questions

- Go to <a href="www.sli.do">www.sli.do</a> and enter event code #ESMW2023 (or scan the QR code)
- Select the 'room' of the session
- Submit your questions







## **Agenda**

- Introduction (Amanda Matson) Session format and knowledge landscape
- Moderator: Anna Besse-Lototskaya
- Presentations (8-10 min, followed by 5-7 min of interaction using Slido)
  - Luis Orcaray: Knowledge transfer from the perspective of the advisory community
  - Amanda Matson: EJP SOIL knowledge transfer a participatory approach
  - Javier Montellano: NBSoil Nature-based Solutions for Soil Management
  - Maria Mendonça, Diogo Moniz: Climate Smart Advisors Knowledge Acquisition
  - Juan Pedro Romero Trueba: Knowledge transfer to farmers' advisors EU Farmbook
- Summary of audience input (6-8 min): Raisa Gerasina
- Closing Slido question



# Moderator



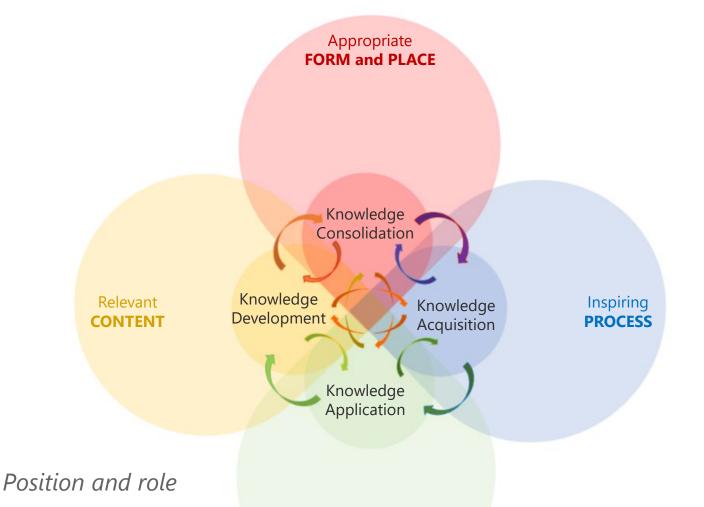
### **Anna Besse-Lototskaya**

Co-coordinator of the EU-co-funded programme EJP SOIL

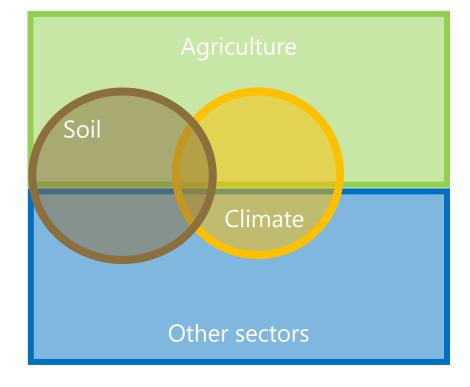
Wageningen University & Research

### **Knowledge Landscape for Sustainable Soil Management**

### **EUROPEAN MISSION SOIL** WEEK



### *Content and sectors*









# Our speakers



**Dr. Amanda Matson** 

Senior researcher

Wageningen Environmental Research



Javier Montellano López

**Project Manager** 

NBSOIL (Nature Based solutions for SOIL Management) project



### **Diogo Moniz**

**EUROPEAN** 

WEEK

**MISSION SOIL** 

Consultant, Research and Innovation Consultant

EU-level Cooperation and National Coordinator in Climate Smart Advisors



**Luis Orcaray** 

**Advisor and Transfer Manager** 

Instituto Navarro de Tecnologías e Infraestructuras Agroalimentarias



### Maria Mendonça

Consultant, Research and Innovation in CONSULAI

Leader of EU-level cooperation in Climate Smart Advisors



# Juan Pedro Romero Trueba

Head of Training & Tech at Spanish Ministry of Agriculture, Fisheries and Food.

Ambassador of EU-FarmBook



# **Advisory Services**



**Luis Orcaray** 

**Advisor and Transfer Manager** 

Instituto Navarro de Tecnologías e Infraestructuras Agroalimentarias



# Instituto Navarro de Tecnologías e Infraestructuras Agroalimentarias (INTIA)

- Public company from the Government of Navarra
- Public advisory service
- 210 employees. 43 advisors
- Service to 49 cooperatives: 11.400 farmers
- 9 experimental sites, 215 trials
- 23 R&D projects (14 European)
- 78 training sessions (1.184 h, 1.838 attendees)





### **Background of Advisors (Spain)**

### **Integrated Pest Management Advisor**

- 1. Since 2012
- 2. Official Producers and Operators Register
- 3. Bachelor's degrees, higher engineering degrees, technical engineering degrees, master's degrees and higher vocational training degrees, which include at least 40 ECTS in subjects directly related to plant production

#### **Fertilisation Advisor**

- 1. From 2026
- General Register of Manufacturers and other Operators of Fertiliser Products
- 3. Bachelor's degrees, higher engineering degrees, technical engineering degrees, master's degrees and higher vocational training degrees, which include at least 40 ECTS in subjects directly related soil and fertilization





### Types of suppliers of advisory services in Europe

### EUROPEAN MISSION SOIL WEEK

### **Public**

In Eastern Europe prevail mixed public/private systems

### **Private**

The Netherlands and Latvia

**Farmers-based organisations** 

Mainly in Western Europe countries



### What do soil advisors expect from researchers?

### **Topics**

- 1. Economic studies of soil management strategies
- 2. Agricultural techniques adapted to local/regional agroclimatic conditions
- 3. Real-time nutrient sensors
- 4. Effect of rotation in the soil and in the next crop
- Information on effectiveness of biostimulants and biofertilizers
- 6. Easy to measure soil biological indicators
- Effect of green fertilizers on soil quality and nutrients and their management in crop rotations. Adapted to local conditions.
- 8. Soil mineralization adapted to local/regional agroclimatic conditions
- 9. Effect of organic fertilisers in crop nutrition and soil quality
- 10. Minor crops nutrient extractions
- 11. Long-term trials





### What do soil advisors expect from researchers?

#### **Transfer materials**

- 1. Places to test strategies of soil management (living labs, lighthouses)
- Videos with successful stories
- 3. Simple digital tool to calculate fertilisation plans
- 4. Simplified scientific papers: specific section with applied results
- 5. Easy to access platforms with soil information
- 6. A practical guide to measure soil fertility at the field site.
- Simple guides to understand quality indicators (biological, physical, chemical)

### **Advisory methods**

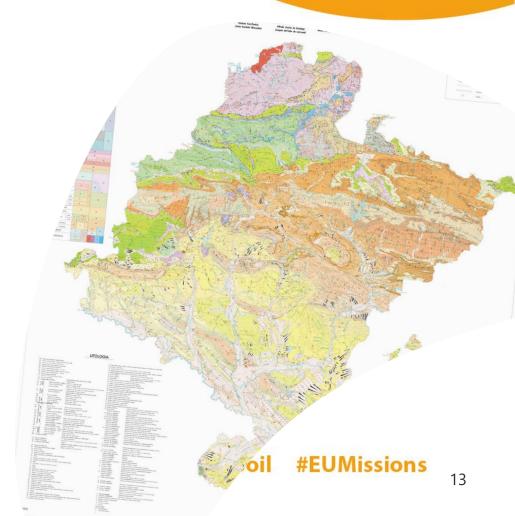
- 1. Training in soft skills
- 2. Methodology to facilitate groups of farmers
- 3. Training in holistic approach to soil management





### What do soil advisors expect from politicians?

- 1. Development of soil maps
- 2. Reduce administrative burdens
- 3. Protect agricultural soil against non-agricultural uses of land





# Thank you!

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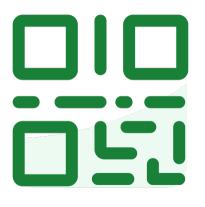












# Join at slido.com #ESMW2023



# Who is present in the audience? (Choose one description that fits you best.)



# What was your main interest in joining this session? (Choose one)



EJP SOIL knowledge transfer - a participatory approach

**Dr. Amanda Matson** 

Senior researcher, Wageningen Environmental Research

November 22, 2023



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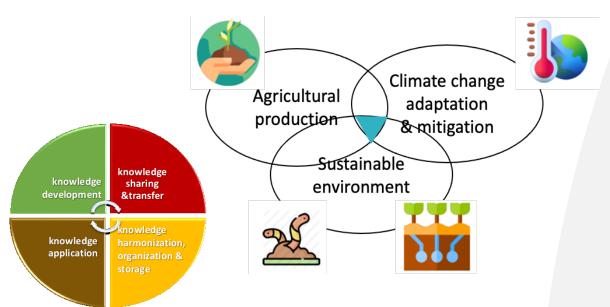




**EJP SOIL - Towards climate-smart sustainable** management of agricultural soils

 European Joint Programme on Agricultural Soil Management

26 partners from 24 European countries



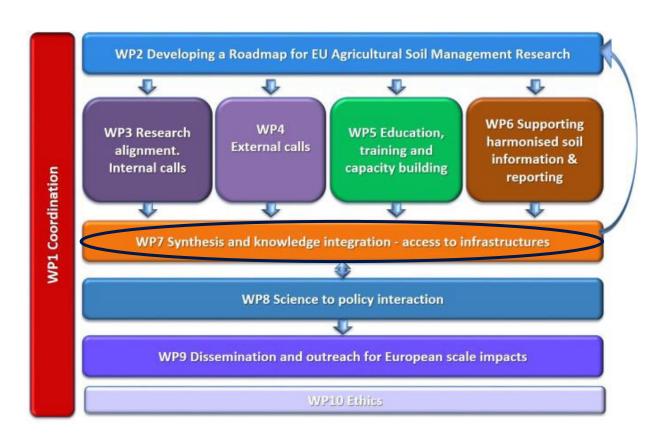




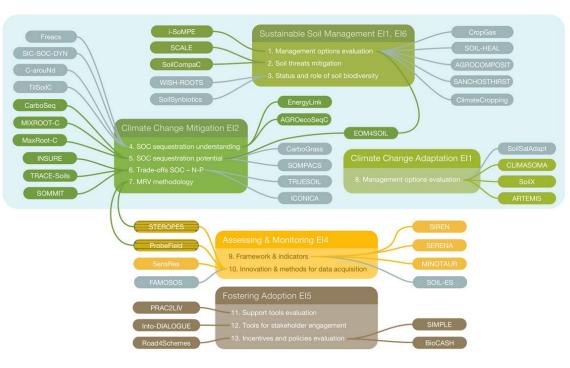


### **EJP SOIL WP7 - Synthesis and knowledge integration**

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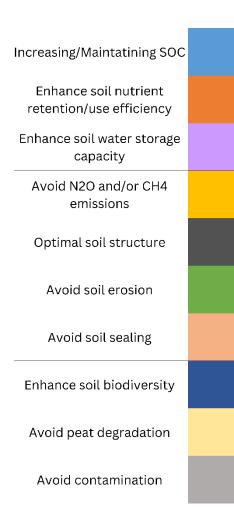


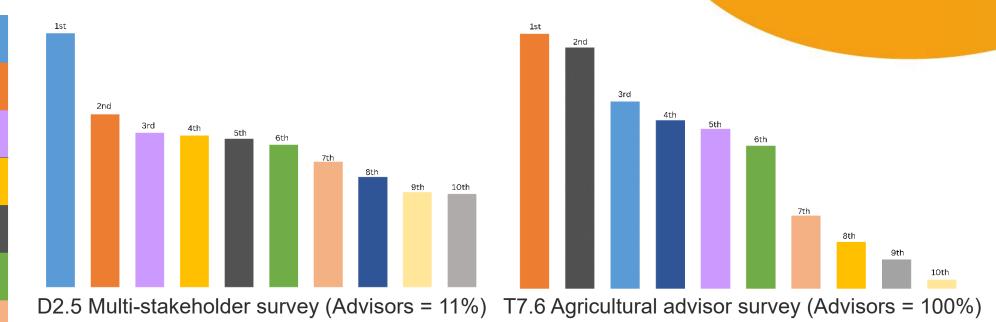
### Landscape of EJP SOIL research projects





### Knowledge priorities differ between stakeholder groups





- Wider stakeholder priorities
  - Avoid N<sub>2</sub>O and/or CH<sub>4</sub> emissions

- Agricultural advisor priorities
  - Soil structure
  - Enhancing biodiversity



### Supporting sustainable soil management advice

### EUROPEAN MISSION SOIL WEEK

April-May 2023

Online survey
22 Countries (>500 respondents)

**General advisory needs** 

May 23, 2023

Advisor Workshop
15 Countries

Specific advisory needs

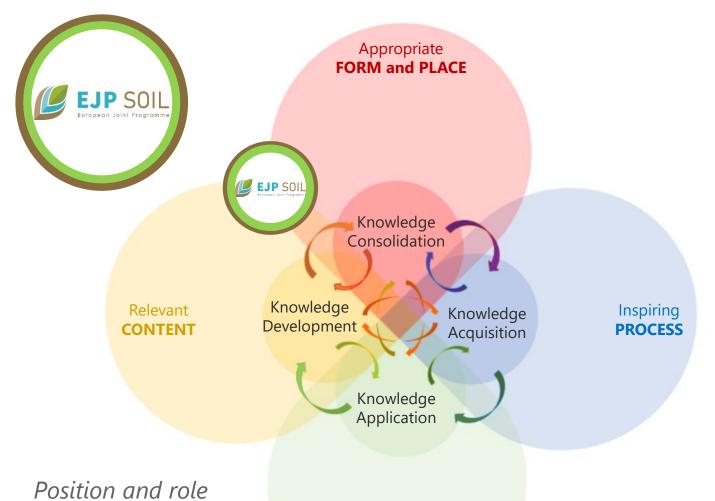
June 15, 2023

EJP SOIL Workshop 41 Participants

Responding to identified needs

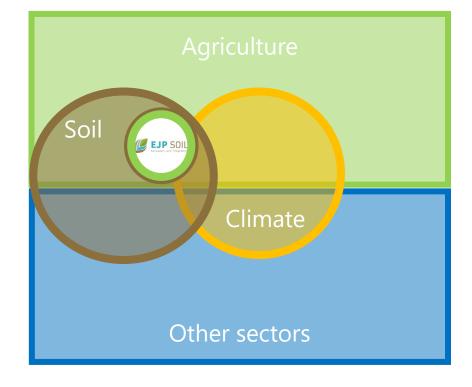
- Joint assessment of soil knowledge and tools needed to support sustainable soil management
- What are advisors doing now? What tools, information, training, datasets, etc. would be useful for them?
- How can activities within EJP SOIL support the advisory community?

### **EJP SOIL (T7.6) in the Knowledge Landscape**



### **EUROPEAN MISSION SOIL** WEEK

### *Content and sectors*





**Desired IMPACT** 



### Matching identified needs to potential outputs

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	Advisor-identified needs	Project	Potential EJP SOIL outputs
BIODIVERSITY			
Awareness: Practical information	training of farmers for what biodiversity does	SERENA	Field guides to help understand soil
Awareness: Practical information	information on soil contamination and the effect on soil ife	SERENA	Field guides to help understand soil
	information on soil contamination and the effect on soil ife	EOM4SOIL WP5	soil contamination when using EOM; new information about plastic contamination
Awareness: Practical information	non-technical information on soil life	Road4Schemes	description of initiatives in Europe where there are some soil carbon farming in place with or without a certification scheme. Who is be
Visibility: Indicators	local threshold/limits of indicators, to indicate the quality of the soil	EOM4SOIL	Database of charateristics of EOM in different countries including C, N
	local threshold/limits of indicators, to indicate the quality of the soil	D6.2	indicators for several soil threats across EU
Visibility: Indicators	need of set of functional indicators	EOM4SOIL	Database of charateristics of EOM in different countries including C, N
	need of set of functional indicators	D6.2	indicators for several soil threats across EU
Visibility: Tools to measure and monitor	monitoring is based on agricultural areas	SOILCompac	Site-specific thresholds for max. wheel-load of farm machinery
Visibility: Sampling	low price for soil analysis are necessary	SERENA + MINOTAUR	soil health indications declined at national and regional levels. Through interaction with stakeholders: (i) region-specific), (ii) thresho
Decision: Decision support	lack of scientific knowledge, what works well, what doesn't, interpreta	SERENA + MINOTAUR	soil health indications declined at national and regional levels. Through interaction with stakeholders: (i) region-specific), (ii) thresho
SOIL STRUCTURE			
Data: data base	soil data base	SERENA + MINOTAUR	soil health indications declined at national and regional levels. Through interaction with stakeholders: (i) region-specific), (ii) thresho
	soil data base	SoilCompaC	soil structure ABC: various visual methods available (with pics)
	soil data base	Databases WP7 T7.3	Database on 246 Long-term experiments in Europe and associated meta-data
	soil data base	WP6 T6.5	Soil indicator maps combining LUCAS and national datasets
Awareness: Practical information	no-till may not be good for all farmers, lack of knowledge	SOMMIT (WP2)	meta-anlaysis: soil tillage vs conservation tillage for N2O emissions and effects of different amendments for fertilization
Visibility: Tools to measure and monitor	curve, quantitative test to show the effects of low carbon	CarboSeq	clear definitions of SOC-increasing measures
Visibility: Tools to measure and monitor	demonstrations to show impact of heavy rain falls etc.	SERENA	demonstrations
	demonstrations to show impact of heavy rain falls etc.	WP9	we have prepared short movies about soil sampling protocol and about structure stability (rain test - comparison between plough tilla
Visibility: Tools to measure and monitor	connection between biodiversity, structure, water; tools to evaluate so	PRAC2LIV	Overview of most important decision support tools for SOC, nutrient efficiency and soil water retention
	connection between biodiversity, structure, water; tools to evaluate so	ARTEMIS	nutrient management in different farming systems
	connection between biodiversity, structure, water; tools to evaluate so	HABITAR-SI	Effects of cover cropping and trees on soil pore size distribution, biological properties
	connection between biodiversity, structure, water; tools to evaluate so	Climasoma	Benefits of organic amendments, no tillage and cover crops for soil bulk density, water availability and erosion
Visibility: Tools to measure and monitor	organic carbon decreases, conservative agriculture is gaining popularity	PRAC2LIV	Overview of most important decision support tools for SOC, nutrient efficiency and soil water retention
	organic carbon decreases, conservative agriculture is gaining popularity	CarboSeq	clear definitions of SOC-increasing measures
	organic carbon decreases, conservative agriculture is gaining popularity	ARTEMIS	nutrient management in different farming systems
CARBON			
Awareness: Practical information	low-till is not for every situation	SOMMIT (WP2)	meta-anlaysis: soil tillage vs conservation tillage for N2O emissions and effects of different amendments for fertilization
	low-till is not for every situation	Climasoma	Benefits of organic amendments, no tillage and cover crops for soil bulk density, water availability and erosion
Awareness: Practical information	examples that it is possible to improve soil carbon	SERENA + MINOTAUR	soil health indications declined at national and regional levels. Through interaction with stakeholders: (i) region-specific), (ii) thresho
	examples that it is possible to improve soil carbon	EOM4SOIL	Database of charateristics of EOM in different countries including C, N
NUTRIENTS			
Awareness: Practical information	lack of info on plant nutrition connection to soil biota, and the effects of	SoilSalAdapt	Test salt water irrigation as viable option for farmers. Evaluating crop yield, soil microbes
	lack of info on plant nutrition connection to soil biota, and the effects of	AgroecoSeqC	Estimation of plant nutrient demand from biomass sampling, plant nutrient uptake efficienty data
	lack of info on plant nutrition connection to soil biota, and the effects of		Effects of cover cropping and trees on soil pore size distribution, biological properties
	lack of info on plant nutrition connection to soil biota, and the effects of		Benefits of organic amendments, no tillage and cover crops for soil bulk density, water availability and erosion
GENERAL			· · · · · · · · · · · · · · · · · · ·
Visibility: Tools to measure and monitor	demonstrations of tools, practices to allow farmers to learn the technic	SERENA	Field guides to help understand soil
		1	

- What do advisors want?
- What does EJP SOIL have?
- How to support knowledge transfer?



### Supporting the development of knowledge objects

### Phase 1: finding synergies between advisors and research

Outcome: advisor-identified knowledge gaps and expected or potential knowledge objects from one or more EJP SOIL projects (*content*)

### Phase 2: co-creation of guidelines for knowledge transfer

Ongoing: with Dr. Maria Hernandez-Soriano (EJP SOIL project: WISH-ROOTS), create an example knowledge object and distill that process into general guidelines (*form*)

### Phase 3: build knowledge base for soil stewardship

Planned: using the guidelines, and in collaboration with EU Farmbook, facilitate the consolidation of advisor-specific knowledge from EJP SOIL projects (*form/place*)





# Thank you!

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How do you think the proposed Soil Monitoring Directive will affect farm advisors and their knowledge needs? What additional/different knowledge objects would be required?



**NBSOIL** (Nature Based solutions for SOIL management)

HORIZON-MISS-2021-SOIL-02-08: Next generation soil advisors. Coordinated by the Institute of Soil Science and Plant Cultivation IUNG-PIB (PL)

Presented by Javier Montellano López (REVOLVE)



NBSOIL

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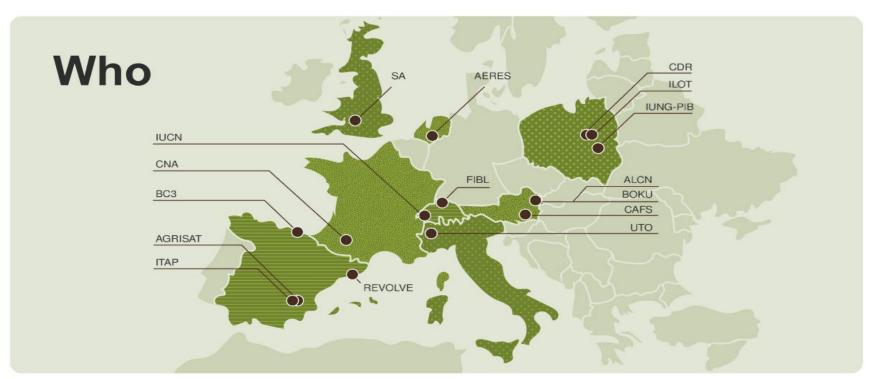






### **NBSOIL**

### **NBSOIL Partners**





**NBSOIL** 

NBSOIL will prototype a learning pathway for 300 existing and aspiring soil advisors.



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The aim is to integrate in soil advice a portfolio of NBS solutions to address the main soil challenges across the main soil use sectors: agricultural, forestry, urban and (post)industrial.





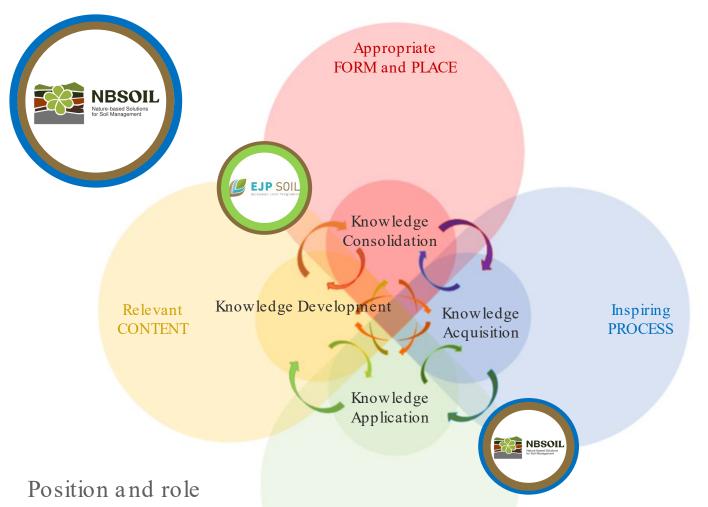
### NBS are defined by the IUCN as...

actions to protect, sustainably manage, and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously benefiting people and nature.

Nature-based Solutions address societal challenges through the protection, sustainable management and restoration of both natural and modified ecosystems, benefiting both biodiversity and human well-being.

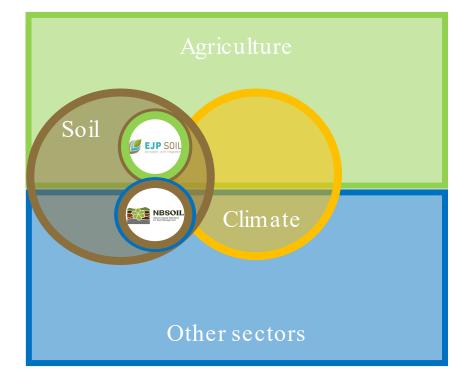


### **NBSOIL** in the Knowledge Landscape



### EUROPEAN MISSION SOIL WEEK

### Content and sectors





Desired IMPACT



# **The NBS Categories**





Organic fertilisers from locally available biowastes



**Bioremediation** 



**Cover Crops** 



# **The NBS Categories**

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**Paludiculture** 



Forest diversification in age and species



Blue Green Infraestructures



# Thank you!

For more info: <a href="https://nbsoil.eu/">https://nbsoil.eu/</a>
Subscribe to our newsletter!
javier@revolve.media

## slido



Which of the NBS innovations (on its own or combined) do you find more interesting for your context and why?



**Knowledge Acquisition** 

**Knowledge Transfer to Advisors** 



### Maria Mendonça

**CONSULAI** | Research and Innovation Consultant

ClimateSmartAdvisors | EU-level Cooperation and Climate Smart Coach



### **Diogo Moniz**

**CONSULAI** | Research and **Innovation Consultant** 

ClimateSmartAdvisors | EU-level Cooperation and National Coordinator

22nd November 2023

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#### **Climate Smart Advisors**

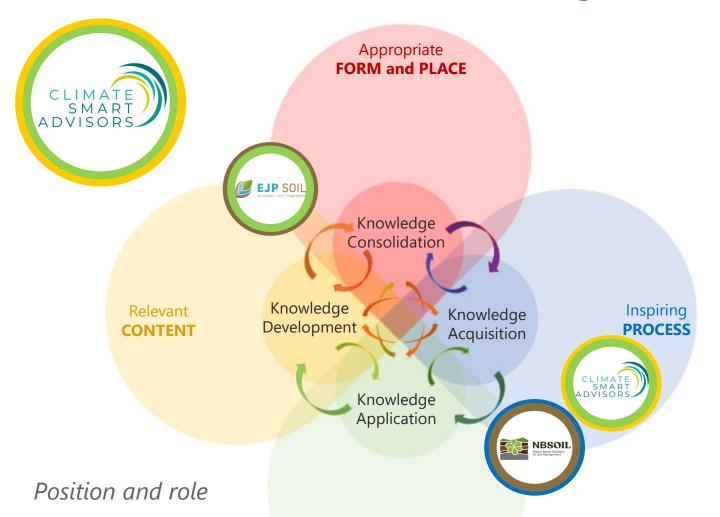
ClimateSmartAdvisors focuses on the crucial role of advisors in the development and dissemination of CS innovations in the wider agri-system.

The project aims to **boost the role of agricultural advisors and advisory service providers** (ASP):

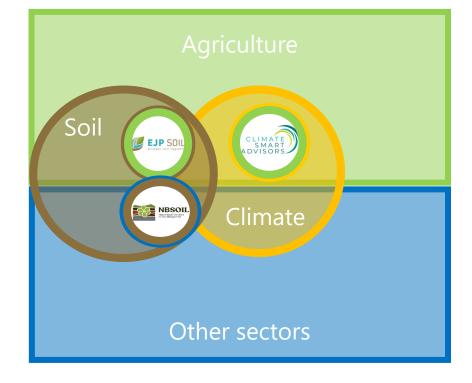


#### **Climate Smart Advisors in the Knowledge Landscape**

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#### Content and sectors

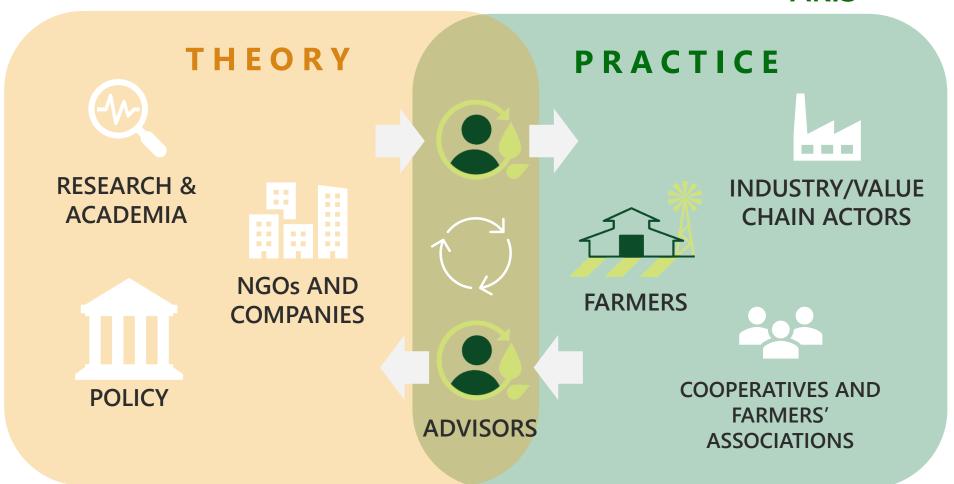








#### **AKIS**





#### **TOP-DOWN APPROACH**

#### **GOAL**

Introduce new knowledge, pratices, policy (...)

- The focus should be on tangible solutions and tools.
- Provides a strong understanding of agricultural concepts, creating structured foundation for advisors.

MAIN REASON | New hypothesis;

#### **ADVISOR'S ROLE**

Open-minded but pragmatic;

- Translate new and complex concepts into farmer's language.
- Apply theoretical knowledge to realworld scenarios.



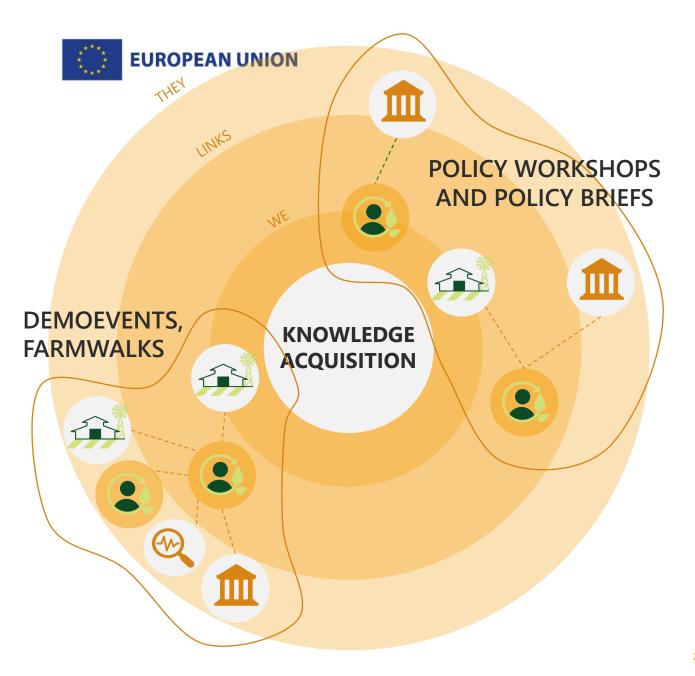
PEER-2-PEER APPROACH	
GOAL	Peer-2-peer learning;
MAIN REASON	Sharing experiences, discuss common challenges;

#### **ADVISOR'S ROLE**

Reflective, collaborative, active listening, constructive feedback, respect for diversity;

- Establishing and managing the network;
- Facilitating;
- Sharing experiences and best practices, enhancing expertise and effectiveness;

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#### **BOTTOM-UP APPROACH**

#### **GOAL**

Reduce the operational gap from practice to theory.

Hands-on approach/Learn by doing;

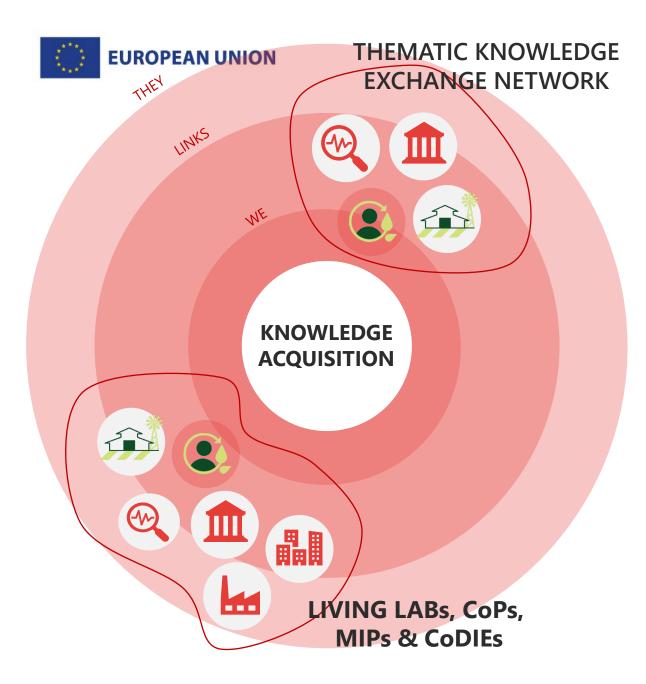
#### **MAIN REASON**

Practical challenges (first on the scene, in implementing theory, etc.)

#### **ADVISOR'S ROLE**

Technical focus but profit-oriented.

- Giving the lead to the farmer.
- Bringing practical inputs from the farming community to policy/research organisms.
- Contribute to the relevance of researchers and academia work to real-world scenarios.



#### **MULTI-ACTOR APPROACH**

#### **GOAL**

Co-create, test, and implement solutions in real-world settings.

#### **MAIN REASON**

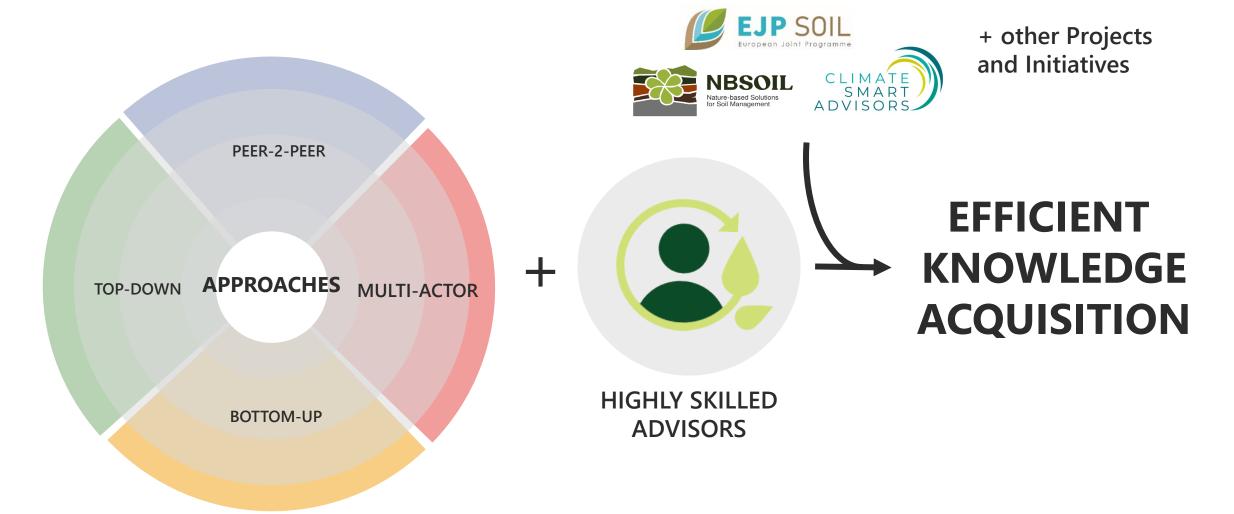
Tackle complex challenges together;

#### **ADVISOR'S ROLE**

Adaptable and Strong Communicator.

- Facilitate the interactions between the different stakeholders.
- Bridge the gap between theory and practice.







# Thank you!

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## slido



What type of knowledge exchange approach do you use the most? (Please rank the approaches from most used to least used.)

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What is missing for knowledge transfer to advisors, and how could advisors and/or the Climate Smart Advisors project contribute to those knowledge gaps?



**Knowledge transfer to** farmers' advisors

Juan Pedro Romero Trueba

Head of Training & Tech.

Ambassador of EU-FarmBook.





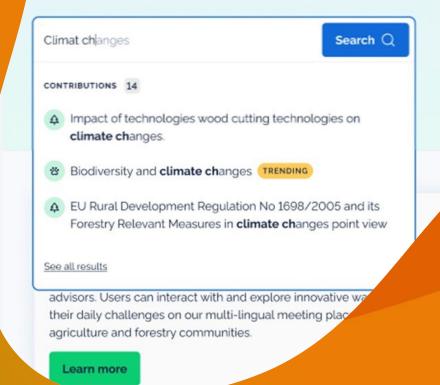




23/11/2023

## **EU-FarmBook**

Empowering European agriculture through EU-funded research and innovation.



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#EUMissions









## Dissemination and communication is a MUST

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Horizon and EIP-Agri projects are required to disseminate and communicate their results.



### What is happening when that project ends?



STOP

Suddenly knowledge transfer stops.

Can all the outputs of research and innovation projects, funded by the European Union, be brought together in a platform?

## EU-FarmBook is an HEU project developing an online "platform" that will:



Ensure practical outcomes from multi-actor projects are readily available and easily findable for all relevant (end-) users (dissemination)



Speed up the application/ use of practical outcomes from multi-actor projects
by (end-) users
(exploitation)



Embed the practical outcomes from multi-actor projects into the 'knowledge networks' and decision-making of (end-) users (impact)



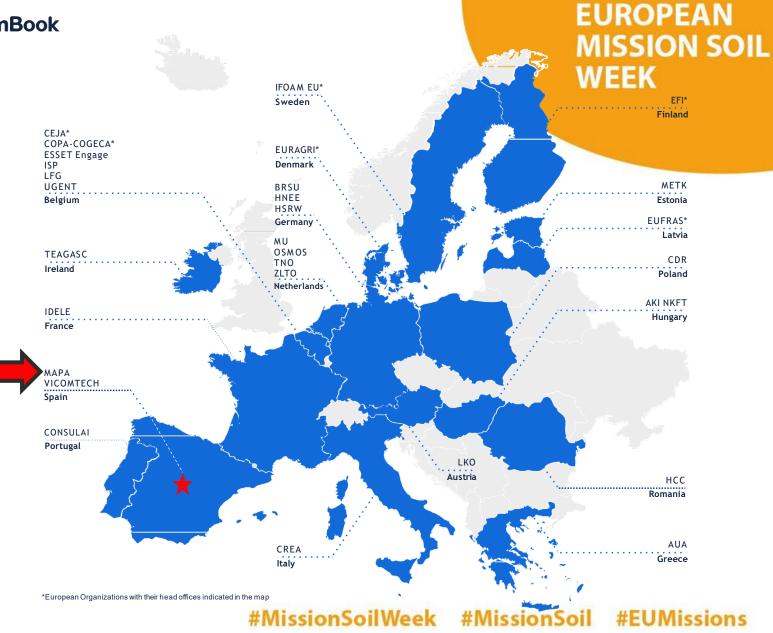
## Consortium

1 8 COUNTRIES

29 PARTNERS

NETWORK ORGANIZATIONS

YEAR
PROJECT
2022-2029





## The EU-FarmBook platform is coming soon...





Mixed project of soil regeneration and water harvesting 45Ha

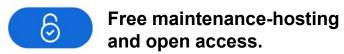




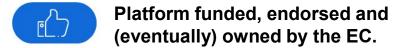


## ...and this is what you can expect

#### **FEATURES**

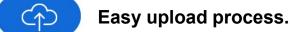












practice-oriented materials.

Licencing to respect authors' rights.



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#### **REQUIREMENTS**



Focus on needs of advisors, farmers, foresters and other rural actors.



**Practice-oriented materials** derived from EU-funded projects



**FAIR Data Principles** → additional 'metadata' is needed

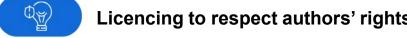


A 'Contributor Agreement'











## Repository of Knowledge Objects

# **EU-FarmBook**

The point of reference of farmers, foresters and advisors



Practice orientated
Knowledge Objects

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Videos







Presentations/slideshows

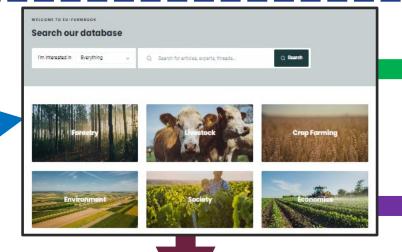
Software applications



### Contributing to your 'project impact pathway'

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Various uploading strategies for contributing practice-orientated material to the EU-Farm Book



Consortium partners **promote**use of the EU-FarmBook within
their own organisation and/or
other organisations at EU,
national and regional levels

Final (end-) users directly

access the content of

the EU-Farm Book

National/ regional level intermediaries access and process the content of EU-FarmBook for final (end-) users

→ advisors, consultants, trainers, teachers, lecturers, journalists and other relevant knowledge brokers'

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And a 'taster' of what's to come...

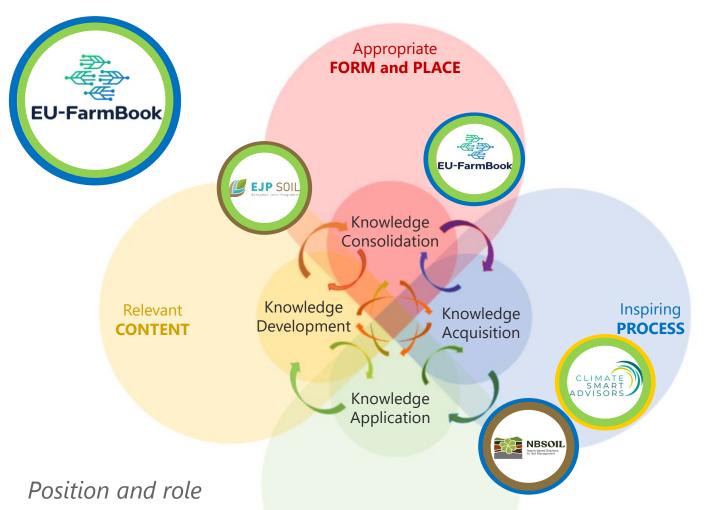


Pigs Cows I don't mind

#### EUROPEAN MISSION SOIL WEEK

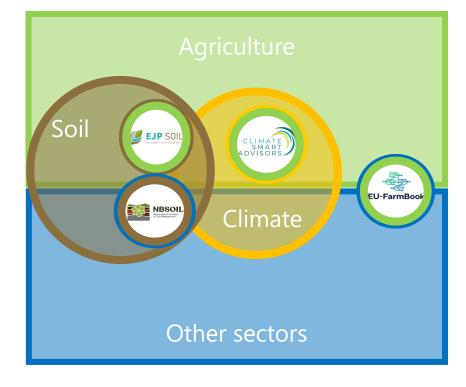


#### **EU Farmbook in the Knowledge Landscape**



#### EUROPEAN MISSION SOIL WEEK

#### *Content and sectors*





Desired IMPACT

## The EU-FarmBook project is multi-actor! Would you like to get involved?

Express your level of interest here:

welcome.eufarmbook.eu/#subscribe







# Thank you!



Email: jpromero@mapa.es

Websites:

https://welcome.eufarmbook.eu/

https://www.mapa.gob.es/es/desarrollo-rural/temas/innovacion-medio-rural/proyectos-europeos-akis/

mission-soil-platform.ec.europa.eu

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