

European Soil Partnership Workshop on Sustainable Soil Management

Introductory comments from EJP SOIL

What do we know?

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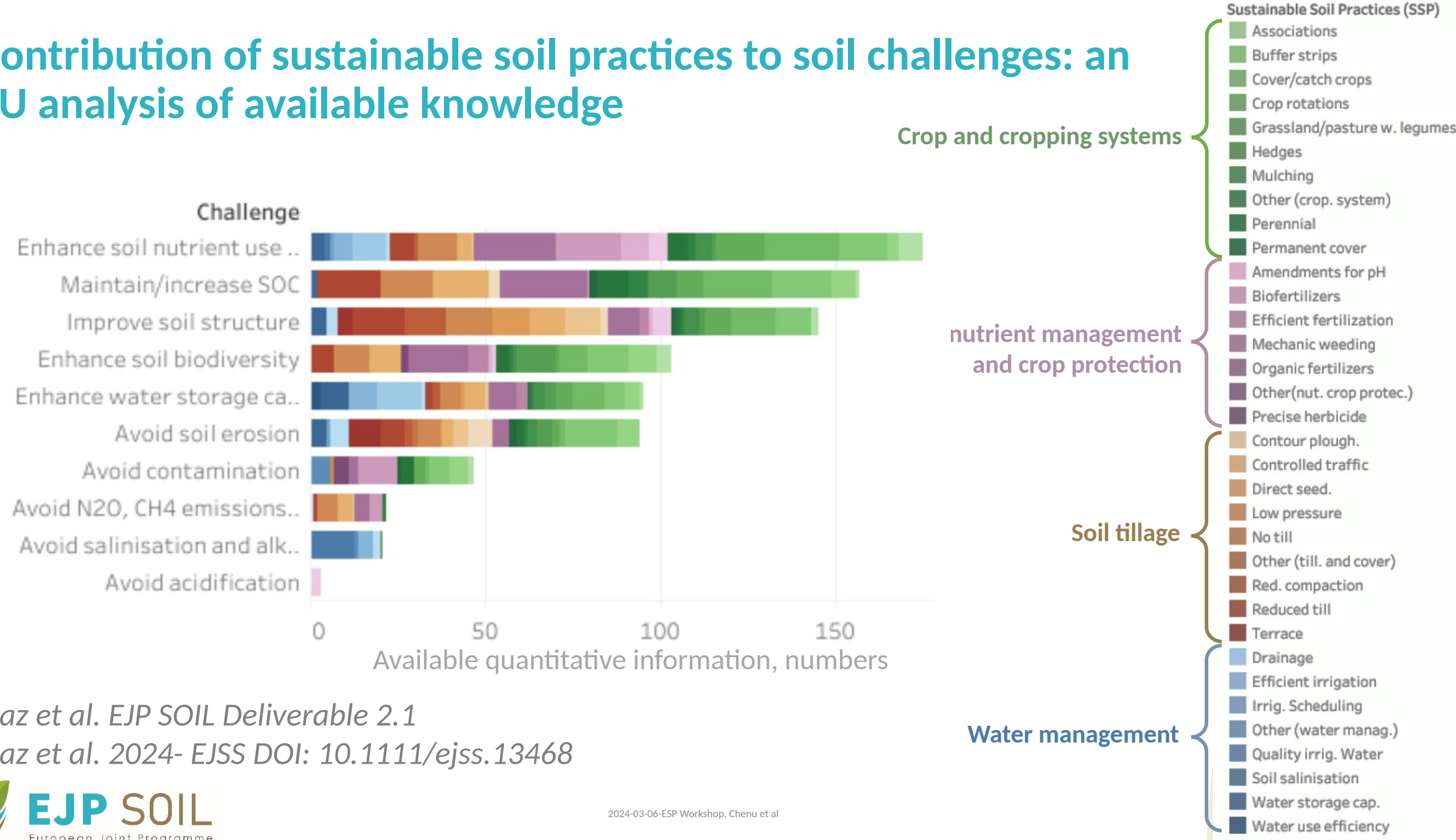


EJP SOIL
European Joint Programme

EJP SOIL has received
funding from the European
Union's Horizon 2020
research and innovation
programme: Grant
agreement No 862695



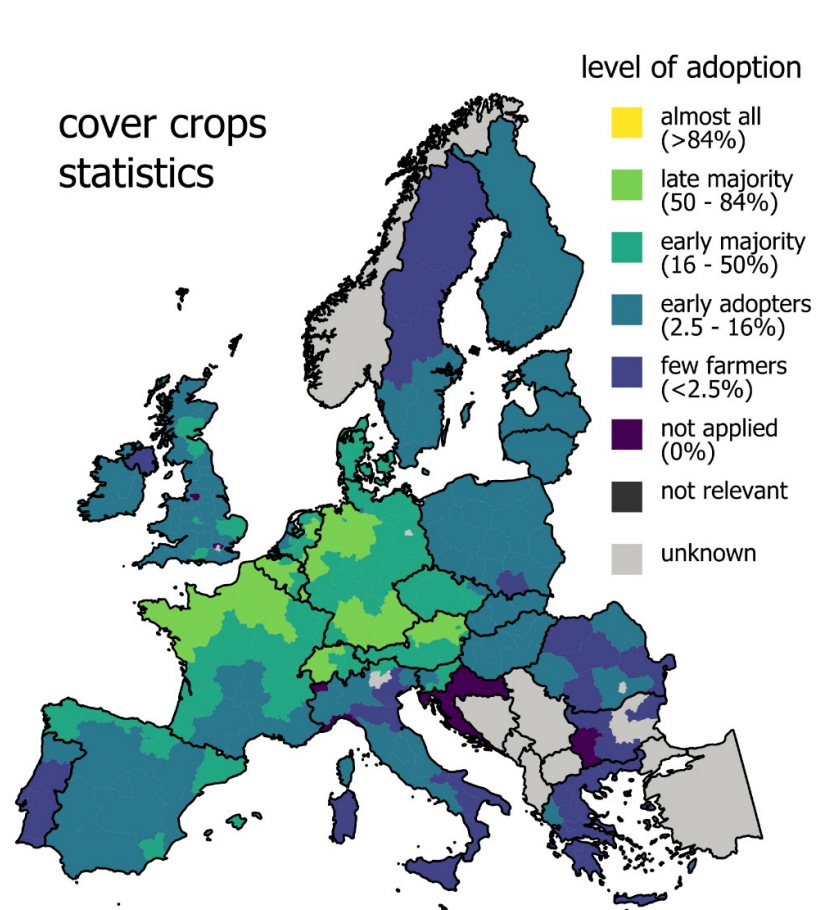
Contribution of sustainable soil practices to soil challenges: an EU analysis of available knowledge



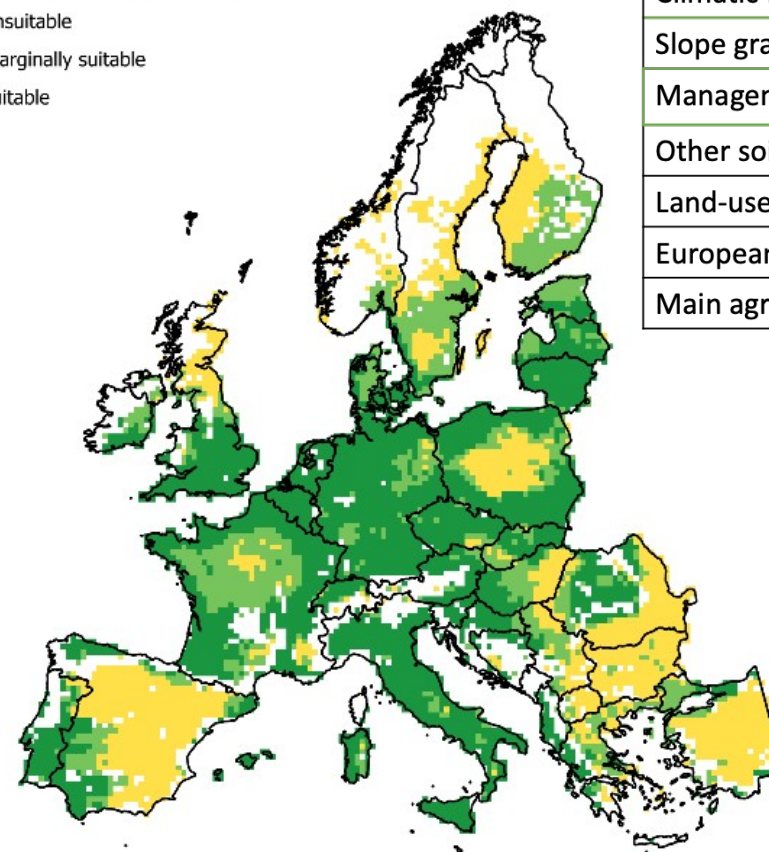
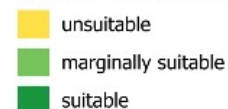
Paz et al. EJP SOIL Deliverable 2.1
Paz et al. 2024- EJSS DOI: 10.1111/ejss.13468

Sustainable soil management options implementation: status and barriers

e.g. Cover crops



climatic cover crop suitability



Climatic factors	
Slope gradient classes	
Management of organic soils	
Other soil properties	
Land-use	
European Farming Systems	
Main agricultural systems	

Heller et al. 2024, EJSS, DOI: 10.1111/ejss.13483

<https://shinyapp.cra.wallonie.be/isompe-inventory/>

Trade-offs : sustainable soil management vs climate-smart?

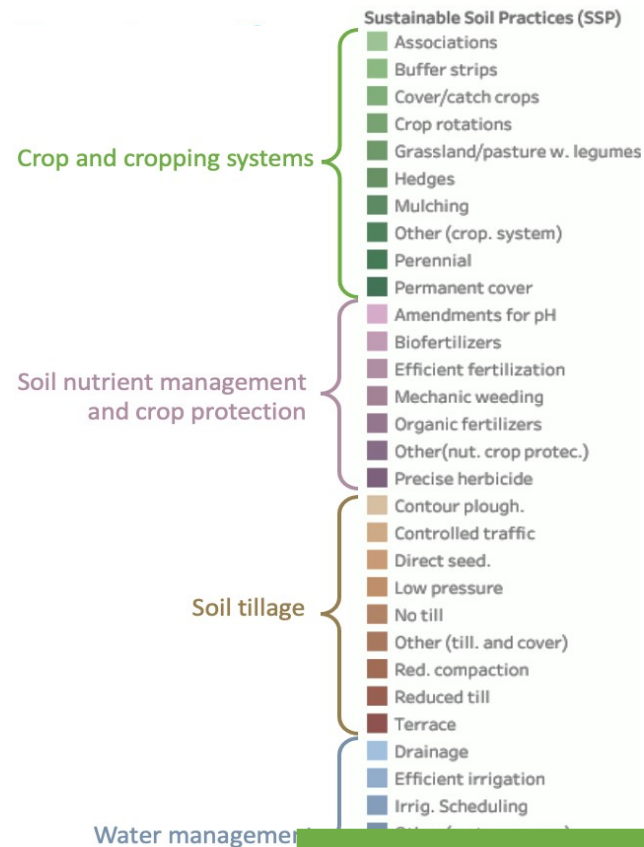
		Climate change mitigation		Climate change adaptation	
		SOC sequestration	non CO ₂ GHG emissions	drier conditions	wetter conditions
Characteristics of sustainable soil management	1- Minimal rates of soil erosion				
	2- Good soil structure				
	3- Sufficient surface cover of soil				
	4- Store of organic matter stable or increasing and high				
	5- Nutrients are available and not lost				
	6- Soil salinization, sodification and alkalization are minimal				
	7- Water is efficiently infiltrated, stored and drained				
	8- Contaminants are below toxic levels				
	9 - Soil biodiversity provides a full range of soil functions				
	10- Soil management system relies of optimized and safe inputs				
	11- Soil sealing is minimized				

legend

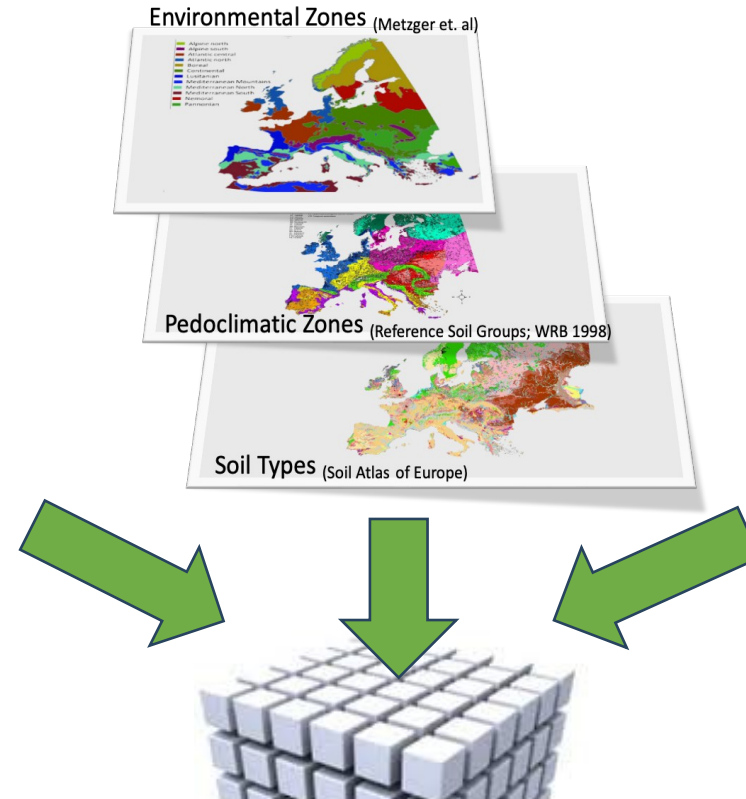
type of effect	+ positive effects	- negative effects	+/- variable effects depending on practice or context	0 no effect
confidence	well established	well established	well established	well established
	established but incomplete	established but incomplete	established but incomplete	established but incomplete
	inconclusive or unresolved	inconclusive or unresolved	inconclusive or unresolved	inconclusive or unresolved

Guidelines for country or region -specific sustainable soil management options - Going beyond VGSSM principles.

1- Soil management practices



2- Pedoclimatic context



3- Soil functions (& ecosystem services)

Nutrient cycling

Water cycling & quality

Habitat for soil organisms

Biomass production

C sequestration & GHG mitigation

Priorities:

- Synthesizing and organising the existing knowledge
- Adequately disseminating this knowledge