



Meeting of Agricultural Chief Scientists  
G20 MACS

# Sustainable Soil Management (SSM) Working Group

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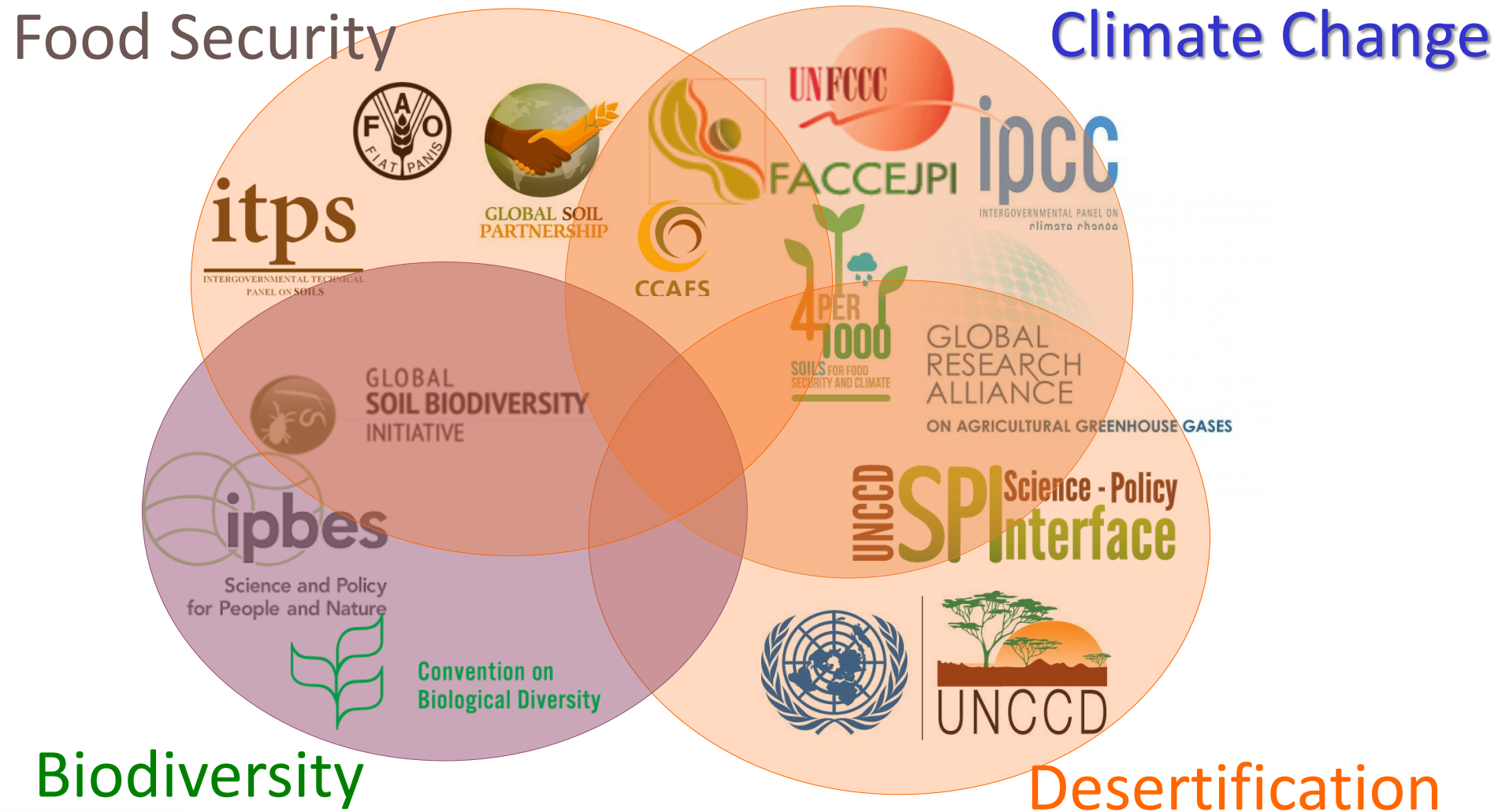
Dr. Pavel Krasilnikov, MSU, Russia



# Sustainable Soil Management International WG

- Leading countries: France and Russia
- Participating countries (organizations)
  - Australia -CSIRO, Brazil – Embrapa,
  - Canada-AAFC,
  - France – INRA,
  - Germany – Von Thünen Institute,
  - Japan – MAAF & JIRCAS,
  - Netherlands – WUR,
  - Russia – Lomonosov Moscow State University
- *Observer:* USA – USDA
- European Commission
- Global Research Alliance
- 4per1000 initiative
- ISRIC

# Soil health cuts across food security, climate change, biodiversity and desertification



# Objectives

- Include (*see last G20 MACS final communiqué*):
  - agricultural soil carbon conservation and sequestration,
  - enhancing productivity through soil biodiversity and management,
  - harmonizing soil study-related methods and approaches (soil analysis, soil classification, soil database).
- Consider how to collaborate with other international initiatives on sustainable soil management and advance priorities within existing initiatives, in order to cover research gaps.
- Consider how to attract funding to strengthen priorities not well covered

# Activities/Outcomes since MACS 2018

- Two SSM Working Group online meetings held between interested countries and initiatives
- Stock take of current research and priorities for these countries
- Outline of next steps
- Web portal (see [www.circasa-project.eu/SSM](http://www.circasa-project.eu/SSM))
- Terms of reference underway
- 3 activities defined for next steps on:
  - soil data,
  - soil biodiversity
  - soil carbon



# Soil data and soil information harmonization

- In collaboration with Global Soil Partnership (GSP), pillar 5, advance standards for soil data exchange and accessibility. Relevant technical experts will be invited and the meeting will be open to all countries contributing to GSP. The meeting will address:
- How to have interoperable data on soil profile and soil physical parameters,
- How to improve soil characterization through new technologies

# Soil biodiversity



- In collaboration with the Global Soil Biodiversity Initiative (GSBI) and the Global Soil Partnership (GSP), define standards and agreements for international collaboration on advanced agricultural soil biodiversity (e.g. metagenomics) assessment methods.
- Define pilot sharing agreements for the metagenomics data across research organizations,
- Advance biological data harmonization and their use for sustainable soil management.
- Organize a side-event to the Global Symposium on Soil Biodiversity (FAO, Rome, March 2020)

# Soil organic carbon



In collaboration with the GSP, with the 4 per 1000 initiative and with the European Commission funded project *'Coordination of International Research Cooperation on soil Carbon Sequestration in Agriculture'* (CIRCASA):

- Develop an International Research Consortium on agricultural soil carbon sequestration in order to maximize synergies across countries in knowledge development and sharing
- Launch an open online collaborative platform for sharing knowledge on soil carbon sequestration between research, higher education and stakeholders, including farmers organizations and extension services.



# An open online collaborative platform on agricultural soil carbon sequestration

[www.ocp.circasa-project.eu](http://www.ocp.circasa-project.eu)



SOIL CARBON SEQUESTRATION  
Open Collaborative Platform

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## OCP Services

 **Matchmaking:** connecting people, create projects opportunities and partner's identification

- Access to a large, interdisciplinary and international community
- Gather contacts
- Share your projects

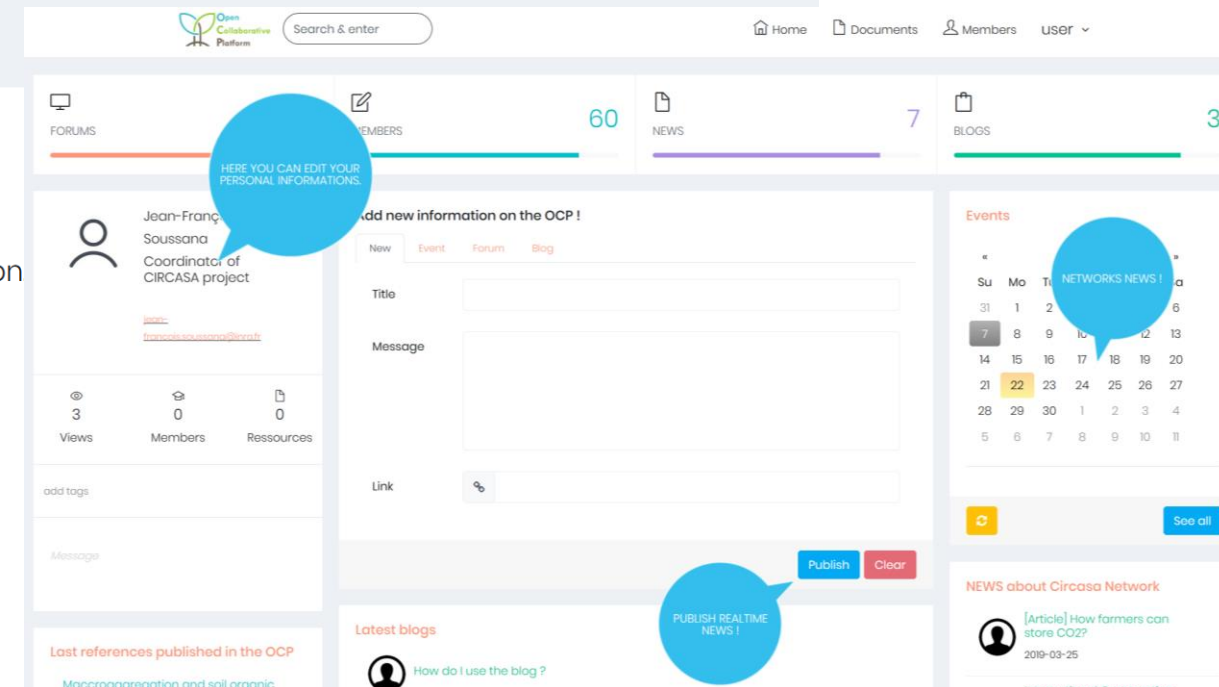
 **Knowledge sharing:** Discuss and share information and events

- Share events on the Calendar
- Exchange your views, Create a Dialog through our forum
- Share your experiences, practices and your knowledge on the blog

 **Knowledge Information System:** share data files in a common international open access repository.

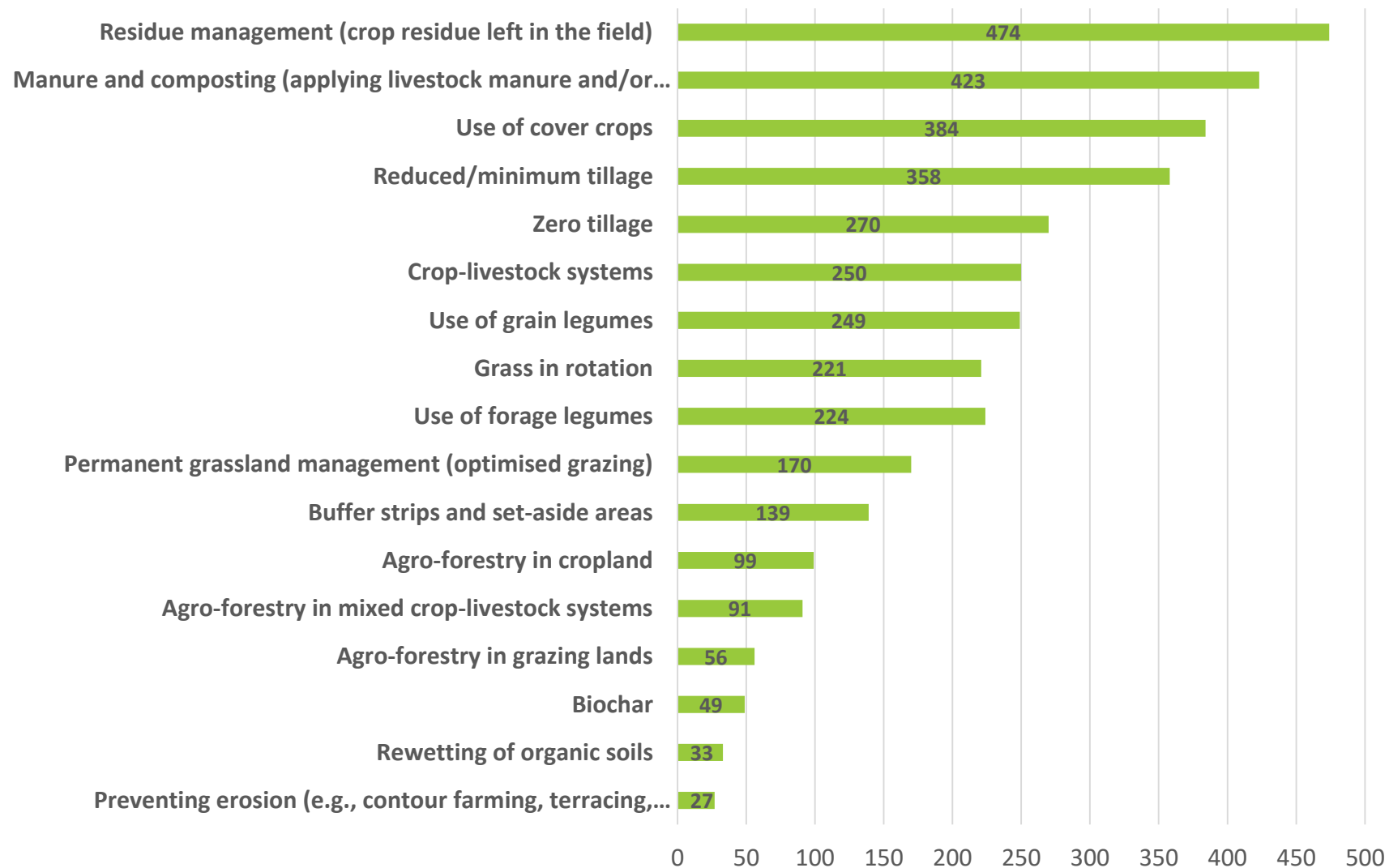
- Search data
- Share data
- Record data

 **Collaborative research:** be part of a community to improve our understanding of agricultural soil carbon sequestration!

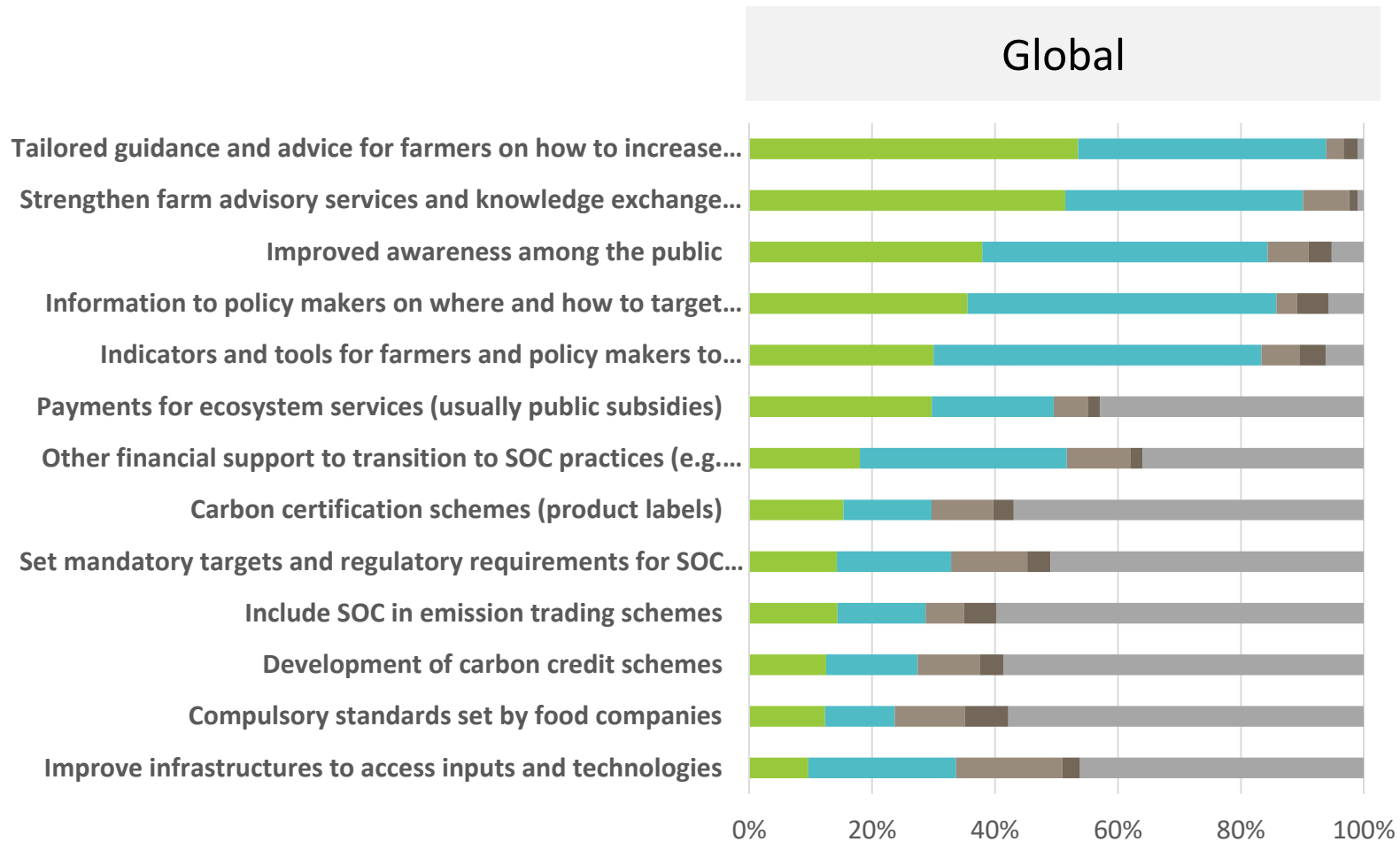


# Options that farmers are using for SOC management

*(International survey in 7 languages, 975 respondents)*

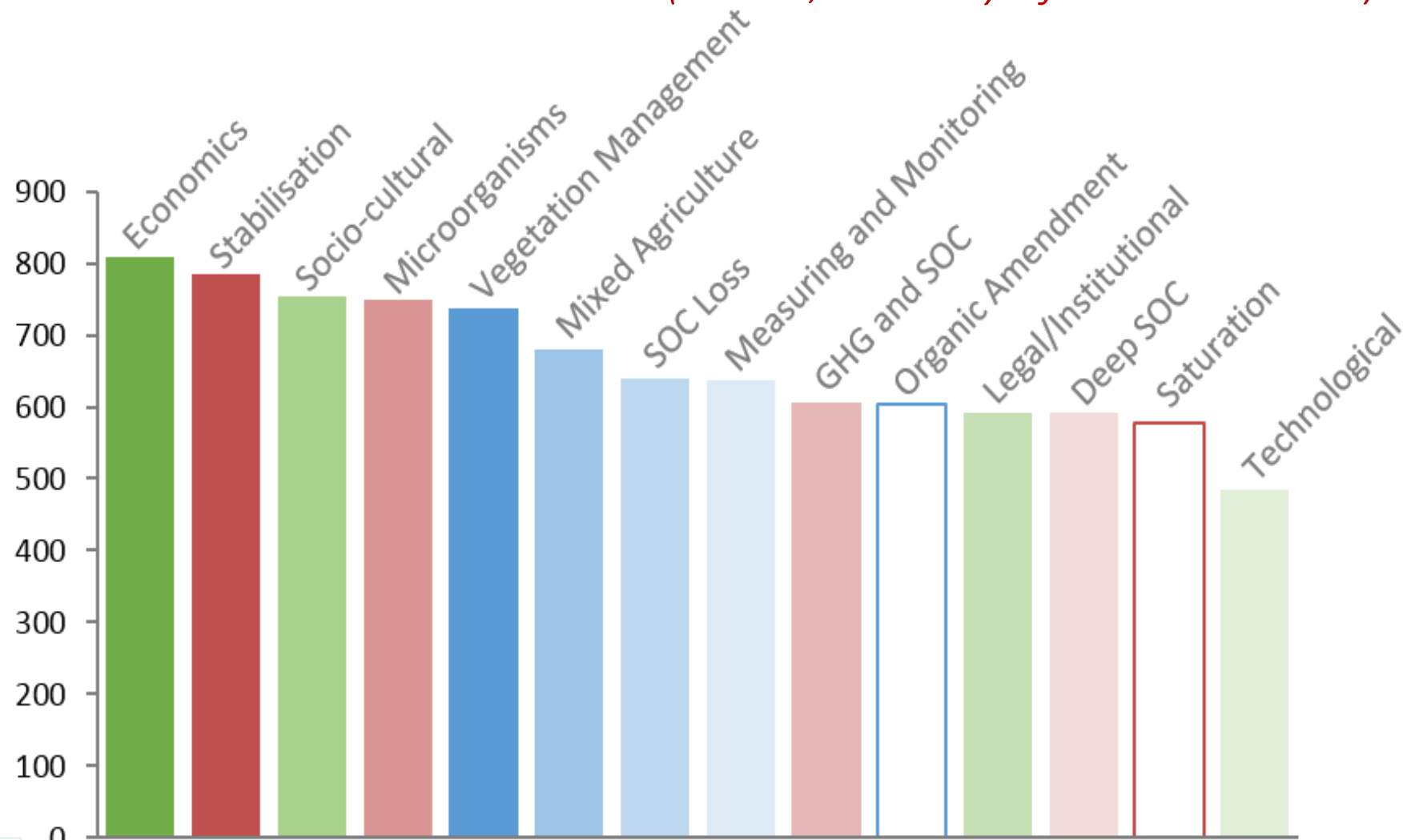


# Farmers' views on solutions to increase adoption of soil carbon sequestration



# Key research challenges for soil organic carbon sequestration

*A questionnaire to international researchers (n=211, minority of social sciences)*



Challenges ranked from most to least important

# Preparing an International Research Consortium (IRC)

- Belmont forum pre-program on 'Soils at Risk'
- European Joint Program, Agricultural Soils, with International calls
- EC Horizon Europe **Mission** planned on Soil Health and Food

**=> CIRCASA Research Policy Committee: Explore activities, resources and governance for an IRC on agricultural soil carbon and draft a work plan.**

The Global Soil Partnership (GSP), the GRA, FACCE-JPI and the 4 per 1000 initiative will greatly facilitate this task, allowing the CIRCASA IRC to be embedded into a broader soil and agricultural research context.





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**Thank you for your attention!**

