



Official Participant

Rapporteur Template for Scientific Events

Event Title :	Carbon Storage in Soil and Its Role in Supporting Agriculture	Date:	June 18
Event Organiser:	UNIMI see http://users.unimi.it/ricicla/atti.html		
Event Target Group:	Researchers, students and end policy makers		
Rapporteur:	Katarina Hedlund		
1. Which research themes are concerned? (Tick all relevant areas)			
<input type="checkbox"/> A: Improve public health through nutrition – healthy and sustainable consumption <input type="checkbox"/> B: Increase food safety and quality <input type="checkbox"/> C: Reduce losses and waste – more efficient food chain <input type="checkbox"/> D: Manage the land for all ecosystem services – sustainable rural development <input type="checkbox"/> E: increase agricultural outputs sustainably – sustainable intensification <input type="checkbox"/> F: Understand food markets in an increasingly globalised food system <input type="checkbox"/> G: Increase equity in the food system			
2. What is the challenge and why does it exist?			
Challenge: Maintain the soil organic content in agricultural soils. Intensification and management of agricultural soils deplete the soil organic matter content			
3. What will happen if the challenge is not addressed? - Short Term Consequences - Long Term Consequences			
Short term: Difficult to determine effects as the SOC sequestration is a slow process. Long term: Yields will be reduced as soil fertility is dependent on the biological activity that the SOC gives to soils. Other ecosystem services as reduction of greenhouse gases and retention of carbon will otherwise be at risk.			
5. What were the suggested solutions, research insights and/or policy proposals? Were specific new research or development actions identified?			
It was emphasized that soil science concerning SOC has more integrated the concept of the biological reasons to formation of soils and integrated this knowledge into models and theories.			

Five main solutions were identified:

- Conservation agriculture
- Organic amendments
- Biochar application
- Crop residue management
- Management practices, including fertilisers and amendments

6. What are the expected benefits and risks of such initiatives?

All options are always better than business as usual though they may not be sufficient for making SOC levels in agriculture to increase. Current results show still a decrease of SOC but with lower rates.

7. Does this event address research challenges others than those in the discussion document ?

It addressed more specific research challenges than in the document, by putting the SOC in focus

Summary of the event:

Research on soil organic matter (SOM) turnover has attracted a great deal of attention in the last two decades since the maintenance of soil quality and fertility is one of the main current global challenges and for economic and environmental reasons. In addition, SOM level is crucial in soil processes and biogeochemical carbon cycle dynamics influence greenhouse gases flux, either mitigating or worsening climate change. Organic matter dynamics in soil has recently attracted interest, because, above all, its role in GHG mitigation. On the other hand, sometimes, scientists forget the role of SOM in maintaining soil fertility and so agriculture.

8. Did this event point out gaps in the private and public research infrastructure/systems which should be addressed?

It pointed out the importance of long term experiments to show effects that otherwise not can be proven.

9. What best practices were mentioned at this event?

See question 5

10. What follow-up actions emerged from this event?

All presentations are posted on a web site. Networking across disciplines (soil science, agriculture, biology) important for getting research forward.

11. Did this event point out gaps in the private and public research infrastructure/systems which should be addressed?

Need to compile evidence of SOC and management, across scales and disciplines
Work out effects on yields and ecosystem services from soil management