

Soil organic matter management in agriculture

Assessing the potential of the 4per1000 initiative

International symposium



Tuesday, 29th May 2018

Time	Presenter/Session	Topic
12:30-12:55	Axel Don and Christopher Poeplau	Welcome and setting the stage
12:55-13:15	Abad Chabbi	Challenges and pathways towards 4per1000 implementation
13:15-15:45	Internal OM Inputs	
13:15-13:45	Claire Chenu (keynote)	Managing soil organic matter in agriculture via plant inputs: recent perspectives and knowledge gaps
13:45-14:05	Juliane Hirte	Drivers of top- and subsoil root biomass and root-shoot ratios in conventional, no-till, and organic winter wheat
14:05-14:25	Holger Bessler	Plant-derived organic carbon input into soil in biogas cropping systems
14:25-14:45	Cornelia Rumpel	Management of ley grassland introduced into cropping cycle determines its effect on soil carbon storage
15:05-15:25	Rainer Remus	Quantification of root-derived carbon input to soil during the vegetation period by dynamically linking of ¹⁴ C partitioning with shoot growth
15:25-15:45	Maria Almagro	Plant residue quality mediate soil organic matter stabilization in an organic rainfed Mediterranean woody cropping system
15:45-17:00	Poster and Coffee	
17:00-18:45	External OM Inputs	
17:00-17:30	Thomas Kätterer (keynote)	Strategies for soil carbon sequestration in cropland evaluated in long-term field experiments
17:30-17:50	Cora Vos	Soil carbon saturation – is there a limit?
17:50-18:10	Daniel Rasse	Biochar as a main solution for C storage in Norwegian soils: current status and needed developments.
18:10-18:30	Jaakko Heikkinen	Persistence of organic matter amendments in Finnish agricultural soils
18:30-18:50	Paolo Mantovi	Enhance soil organic carbon stocks by means of the Biogasdoneright system

Wednesday, 30th May 2018

8:30-10:20	SOM Monitoring	
8:30-9:00	Steven Sleutel (keynote)	4‰ yearly soil C storage: How much will verification cost? How to help farmers design soil C storing management within boundaries set out by nutrient legislation?
9:00-9:20	Bas Van Wesemael	Routine soil fertility analysis to improve soil organic matter management. A case study from southern Belgium
9:20-9:40	Štefan Koco	Balance of soil organic carbon stock changes on the background of detailed analysis of land cover changes
9:40-10:00	Martin Wiesmeier	Implementation of the 4 per 1000 initiative at the regional scale: A reality check of soil management in Bavaria
10:00-10:20	Sonja Keel	Swiss agricultural long-term experiments reveal little potential for soil carbon sequestration
10:20-11:00	Poster and Coffee	
11:00-12:40	Modelling and new analytics	
11:00-11:20	Claas Nendel	High-resolution simulations of crop production and agro-ecosystem services for Germany
11:20-11:40	Moritz Laub	Advancing SOM modeling by the use of measurable proxies for different soil organic matter pools
11:40-12:00	Uwe Franko	Prediction of SOC accumulation for high input rates of organic matter - is there a limit?
12:00-12:20	Alexis Thoumazeau	Development of a new <i>in situ</i> , time- and cost-effective indicator to assess the impact of land management on soil organic carbon dynamics
12:20-12:40	Lauric Cécillion	Thermal analysis based models to quantify centennially persistent soil organic carbon and 20 year soil organic carbon loss in temperate soils
12:45-13:30	Discussion and Closing	
13:30	Lunch	

Poster presentations (29th May 15:45-17:00 h and 30th May 10:20-11:00 h)

First author	Topic
Viridiana Alcantara	Activities in Germany contributing to the 4per1000-Initiative
Cristina Arias-Navarro	Coordination of International Research Cooperation on soil Carbon Sequestration in Agriculture (CIRCASA)
Gabriela Barancikova	Soil organic carbon monitoring and using of its results in SOC modelling
Dietmar Barkusky	The long-term experiment V140/00 in Müncheberg, Germany: contribution to modern soil fertility research
Sergej Blagodatsky	How land conversion from C4 to C3 plants helps in quantitative estimation of C sequestration in soil and approaching 4 per 1000 initiative
Julius Diel	Regional sensitivity and uncertainty analysis of a SOM modelling with aggregated cultivation data of Saxony
Noelia Garcia Franco	Controlling factor of carbon dynamics in grassland soils of Bavaria between 1989 and 2016
Tommy D´Hose	Carbon sequestration potential of compost application in agricultural soils
Klaus Isermann	The utopian / illusionary initiatives like 4p1000 org to enforce apparently “permanent” C-, (N-, P-, S-) (im-)mobilisation ≠ sequestration in soil organic matter (SOM) as “negative emissions” to counteract i.e. climate change
Monika Joschko	Relationship between soil structure and carbon dynamics in differently tilled soils: potential for a farmer`s tool?
Anna Jacobs	Carbon Inputs to agricultural soils in Germany
Katja Klumpp	Carbon sink activity of managed grasslands
John H. Kim	Effects of tillage practices on net farm returns (profits)
Anna Kühnel	Impact of climate and management on organic carbon of cropland soils
Swen Meyer	Calculation of field SOC stocks based on high-resolution soil texture maps
Annette Morvan-Bertrand	Soil Organic Carbon stocks in French mown old grasslands: What are the drivers?

First author	Topic
Antonio Rodriguez	Livestock management regulates soil organic carbon storage in interaction with factors acting at regional to ecosystem scales in grasslands from the Pyrenees
Marcus Schiedung	Deep soil flipping increases carbon stocks of high productive pastures on New Zealand's West Coast
David Sebag	Can the thermal stability of soil organic matter reflect disturbance and resilience in rubber tree-based agrosystems?
Michael Sommer	4 per 1000 – What can we learn from the erosion-carbon nexus?
Markus Steffens	The SOCORT consortium: Does conversion to conservation tillage really increase soil organic carbon stocks in organic arable farming?
Charlotte Verger	The '4 per 1000 : Soils for food security and climate' initiative - The international scientific and cooperation program
Fulu Tao	Cropland soils in China have a large potential for mitigating CO ₂ emissions based on literature survey
Alexis Thoumazeau	Biofunctool [®] : a new framework to assess the impact of land management on soil quality
David Tokarski	Detectability of organic amendments in soil organic matter using thermal decay dynamics
Elena Valkama	Conservation agriculture can store carbon in soil
Evelyn Wallor	Modelling long term effects of different nitrogen fertilization levels in a crop rotation on a light sandy soil