

Farm-to-regional scale integration network relaunch meeting

Online

25th May and 28th May 2021

MEETING REPORT

The relaunch meeting of the Farm-to-regional scale integration network (FRS) of the Global Research Alliance on Agricultural Greenhouse Gases (GRA) took place online on 25th May and 28th May 2021. The meeting was chaired by Claus Deblitz, Germany, Yelto Zimmer, Germany and Nina Grassnick, Germany (Co-leads of the FRS).

This report is a summary of the key discussions and outcomes of the meeting. Recordings and the Powerpoint presentation are provided separately on the GRA's website.

PARTICIPANTS

The meeting was attended by 48 participants, representing 25 member countries of the FRS (Appendix 1).

- **Countries represented:** Argentina, Australia, Bangladesh, Belgium, Brazil, Canada, Colombia, Denmark, Finland, France, Germany, Ireland, Ivory Coast, Malaysia, New Zealand, Norway, Peru, Portugal, South Africa, Spain, Switzerland, United Kingdom, United States of America, Uruguay, Vietnam

MEETING AGENDA

1. Overview GRA and current activities (Nina Grassnick)
2. Overview agri benchmark network and current activities (Yelto Zimmer and Claus Deblitz)
3. Profile of participants of this meeting (results from survey) (Nina Grassnick)

Three breakout sessions

4. Introduction of participants
5. Round trip among participants: interests and expectations

Plenary session

6. Key results from breakout sessions (Yelto Zimmer, Claus Deblitz and Nina Grassnick)
7. Next steps and closing (Claus Deblitz)

RESULTS FROM BREAKOUT GROUPS

Priorities for further work in the Network

General

a) Applied and farm level topics:

1. Develop integrated solutions (livestock/crop); understanding trade-off methane vs. CO₂, How to capture full system interactions?
2. What motivates producers to change? Role of innovations and incentives
3. Modelling whole farming systems – exchange and improve
4. Potential of digital technologies for monitoring (rewarding/taxing) (incl. remote sensing for pasture)
5. Adaptation to climate change, how does it impact GHG emissions?
6. Impact from land ownership on GHG emissions and options to mitigate GHG emissions?

b) Strategic and leadership topics:

1. How to capture/account for leakage effects?
2. Identify and analyze trade-offs: food security and GHG mitigation
3. How to upscale farm level to regional; land use policy visions?
4. How to bridge the gap between research and producers, upscaling, policy strategies
5. Search for win-win options for producers (less GHG emissions and improved economics)
6. Challenge negative cost estimates
7. Perspectives non-livestock proteins

Crop production

1. Drained organic soils and peatlands: how to use these fields
→ beyond farm level, also applies to grasslands (ex. in the Alpes)
2. How to design rotations and crop production strategies (incl. fertilization) that allow for reduced GHG emissions? Mainly optimize NO_x emissions
3. How to increase carbon sequestration (e.g. agroforestry) → management practices? Costs?

Livestock production

1. Feed additives for GHG mitigation? → ongoing cost
2. Enteric methane emissions – Promising strategies,
→ how much do they reduce CH₄?
3. Manure storage (can be controlled politically), e.g. in slurry in biogas plants
→ transport issues, economics
4. How to manage pasture and minimize GHG emissions

5. Role of breeds in GHG emissions

Expectations towards the new network lead

1. Focus on key projects and goals
2. Organize/offer training on mitigation potential analysis methods/tools for the farm level – be open for not-members
3. Run Webinar series on existing results and methods
4. Learn about low-cost measurements and options to GHG mitigations
5. Space for exchange and discussions, promote and support networking

Funding ideas & opportunities

1. Eranet – integration
2. EJP Soil (Section 3)
3. GRA CLIFF-GRADS
4. US “Agriculture Innovation Mission (AIM)” for climate
<https://www.usda.gov/media/press-releases/2021/04/23/launching-agriculture-innovation-mission-climate>

NEXT STEPS

1. Create a literature / research data base on results:
 - a) Farm-level mitigation
 - b) Upscaling from farm to region
2. Update the FRS subdomain on GRA-Website
3. Create a LinkedIn group to foster networking within FRS
→ please send contact request on LinkedIn to Nina Grassnick
4. Webinar series on farm-level mitigation measures (Start: September 2021)
5. Next meeting September 2021 (TBC)

APPENDIX 1: Participants list

Country	Attendees
Argentina	Florencia Garcia: Universidad Nacional de Córdoba -Facultad de Ciencias Agropecuarias
Australia	Sosheel Godfrey: Charles Sturt University
	Stacey Bell: FARMANCO
Bangladesh	Ashraf Biswas: Chattogram veterinary and Animal Sciences University
	Nani Gopal Das: Bangladesh Livestock Research Institute
Belgium	Nico Peiren: Flanders Research Institute for Agriculture, Fisheries and Food (ILVO)
	Sam De Campeneere: ILVO
Brazil	Pedro Machado: Embrapa/Brazil
Canada	Brenna Grant: Canfax Research Services
	Pamela Joose: Agriculture and Agri-Food Canada
	Roland Kroebel: AAFC
Costa Rica	Ana Gabriela Pérez-Castillo: Universidad de Costa Rica
Denmark	Anders Adamsen: Aarhus University
	Diego Abalos: Aarhus University
	Nick Hutchings: Aarhus University
Finland	Matti Pastell: Natural Resources Institute Finland (Luke)
France	Jean-Francois Soussana: INRAE
Germany	Andreas Meyer-Aurich: ATB Potsdam
	Bernhard Osterburg: Thuenen Institute
	Claudia Heidecke: Thuenen Institute
	Claus Deblitz: Thünen Institute
	Mari Bieri: Thünen Institute of Climate-Smart Agriculture
	Nina Grassnick: Thünen Institute
	Yelto Zimmer: agri benchmark
Ireland	John Harrison: Department of Agriculture, Food and the Marine (DAFM)
	Karl Richards: Teagasc
Ivory Coast	Yao Jean-Clovis KOUADIO: Université Félix Houphouet-Boigny
Malaysia	Mardhati Mohammad: Malaysian Agricultural Research and Development Institute
New Zealand	Sandy Zhang: Ministry for Primary Industries
	Thiagarajah Ramilan: Massey University
	Tony van der Weerden: AgResearch
Norway	Stine Samsonstuen: Norwegian University of Life Sciences
Peru	Carlos Gomez: Universidad Nacional Agraria la Molina
Portugal	Maria de Belém Freitas: Algarve University
South Africa	Michiel M Scholtz: Agricultural Research Council - Animal Production
	Mokhele Moeletsi: Agricultural Research Council
Spain	Alberto Sanz: Technical University of Madrid
	Francisco García: Tragsatec
	Pilar Merino: NEIKER
Switzerland	Daniel Bretscher: Agroscope

United Kingdom	Karl Behrendt: Harper Adams University
	Laura Cardenas: Rothamsted Research Sustainable Soils and Grassland Systems Department
United States of America	Arlene Adviento-Borbe: USDA-ARS
	James Dobrowolski: USDA National Institute of Food and Agriculture
	Peter Vadas: USDA
Uruguay	Hayden Montgomery: Global Research Alliance on Agricultural Greenhouse Gases
Vietnam	Bui Thi Phuong Loan: Institute for Agricultural Environment
	Tran Van: Institute for Agricultural Environment