

Research Groups Presentations to Council 2026

- **Rice Research Group**
- **Crop & Land Use Research Group**
- **Livestock Research Group**



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ON AGRICULTURAL GREENHOUSE GASES

Rice RESEARCH GROUP

RG Representative: Yasuhito Shirato



GRA Council Meeting, Costa Rica, July 2026

Research Group Aim

Promoting the exchange of information and sharing of experiences on Rice among various countries and regions, with the aim of helping each region achieve sustainable agriculture by balancing greenhouse gas mitigation with food production.

Co-Chairs

Adriano Castro
(Brazil)

Nomsa Chizhande
(Zimbabwe)

Yasuhito Shirato
(Japan)

Rice Research Group Updates

Include any updates/activities since the last Council meeting (June, 2025) – e.g. more information determining the scope of the network, recommended focus of research activities and initial steps for re-establishing networks and contacts.

If you are a new Research Group then include updates on your progress since establishment (January, 2026)

- Activity of MRA guideline update is on going.

Rice Research Group Updates

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Update MRV handbook in 2018.



Collaborative Activities

Fellowships

Meetings

Publications

Research Funds

Technical Manuals

Webinar



Library >> Technical Manuals >> MRV Handbook for Water Management of Irrigated Rice Paddies, February 2018

MRV HANDBOOK FOR WATER MANAGEMENT OF IRRIGATED RICE PADDIES, FEBRUARY 2018



Research Groups



Countries



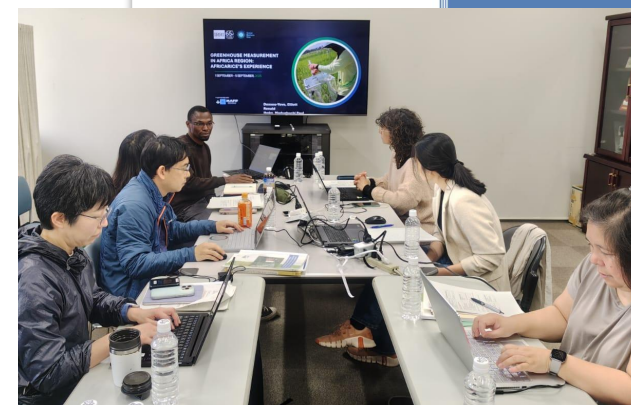
Download

MRV Handbook for Water Management of Irrigated Rice Paddies, February 2018

Handbook of Monitoring, Reporting, and Verification
for a Greenhouse Gas Mitigation Project with Water
Management in Irrigated Rice Paddies



Version 1
February 2018
Institute for
Agro-Environmental
Sciences, NARO, Japan



Meeting in Japan in April 2026.



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NEXT STEPS

Rice Research Group



GRA Council Meeting, Costa Rica, July 2026

Next steps:

Include next steps for your Research Group for 2026-2027.

- Have RG meeting annually to share information.
- Plan to use that as a stepping stone toward identify and capture innovations and best practices in global rice systems.

Plans for RG annual meeting:

Include your plans for a Research Group meeting (either in-person or online) for 2026.

Online. By the end of 2026.



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Crop and Land Use RESEARCH GROUP

RG Representatives: María Rosa Mosquera Losada, Thierry Caquet, Peter Grace



GRA Council Meeting, Costa Rica, July 2026

Crop and Land Use Research Group

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Research Group Aim

Reducing greenhouse gas emissions associated to nitrogen fertilizers and improving carbon storage

Considering trade-offs and synergies between different mitigation options such as nutrient management and practices to increase soil carbon storage

Promoting a systems approach incorporating multidimensional assessment of performances

Fostering dialogue and collaboration between Networks within the RG and with Networks from other RG

Co-Chairs

María Rosa Mosquera Losada, USC

Thierry Caquet, INRAE

Peter Grace, QUT

Crop and Land Use Research Group *Updates*

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- June 2025 (GRA Council Meeting) – Closing of the Integrative RG and Croplands RG and formation of a new RG titled 'Crop and Land Use'
- November 2025 (Extraordinary GRA Council meeting) – New Co-Chairs supported by Australia, France and Spain confirmed
- December 2025 – 1st meeting of GRA secretariat and co-chairs
- January 2026 – Establishment of the Research Group
- February 2026 – Meeting to engaging current Network leads and exploring consolidation of current Networks
- March 2026 – Meetings with Network leads
- April 2026 – Agreement to structure the Research Group around several Networks:
 - Agroforestry
 - Nitrogen (potentially framed as nutrient management)
 - Soil Carbon, incorporating peatlands
 - Agricultural Systems, providing an integrated perspective and linking with the Livestock RG

Crop and Land Use Research Group *Networks*

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Networks	Aim	Leads
Agroforestry	Fostering agroforestry across the world	Mosquera-Losada MR, Pantera A, Rodríguez-Rigueiro, Santiago-Freijanes JJ, Ferreiro-Domínguez N,
Soil carbon => <i>Soil Carbon Futures GRA</i>	Practical and scalable soil carbon sequestration strategies	Suzanne Reynders
Nutrient Management	Increasing nitrogen use efficiency and reducing N ₂ O emissions	Craig Drury
Agricultural Systems	Reducing global warming potential of agricultural systems	TBD

Recent activities:

- Updating of the Agroforestry Alive Handbook (> 50,000 visits since June, 2025)
- Creation of the agroforestry platform including:
 - * Knowledge cloud reservoir
 - * MOOC for farmers and advisors
 - * Agroforestry DSS
- Fostering digitalization linked to the DIGIRANGELAND project
- Policy analysis of AF and climate change

Upcoming activities:

- Fostering AF adoption linked to the project FORADVISE
- Developing of a Soil Carbon Sequestration model linked to Agroforestry and land use change linked to the project SUS-SOIL: European Countries, Bosnia-Herzegovina, Turkey, Egypt and Tunisia
- Fostering AF at community level thanks to the GREENCOOP project: European countries and China
- Using AF for weed management linked to GOOD and GREENCOOP
- Activities: Webminars, PhDs, workshops, papers, Cliff-Grads scholarships

Soil Carbon Futures GRA Network

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Recent activities:

08-2025 : first General Assembly meeting of Soil Carbon Futures

- Validation of name change from Soil Carbon IRC to Soil Carbon Futures
- Validation of interim gouvernance model
- On the way to an official association status

09-2025 : IMPACT4SOIL platform has been completed within 2 modules (+50 Practices and +100 Networks)

November 2025 : Soil Carbon Futures event at COP30 in Belém with Embrapa, CCarbon /USP and FGV

December 2025 : ORCaSa final reporting submitted to EU / still pending

April 2026: High level policy meeting in Paris with:

- INRAE
- EU DG Clima : European certification framework
- University São Paulo Vice President/CCARBON lead
- FGV : Daniel Vargas / Brazilian certification framework

April 2026: MRV scientific meeting in Toulouse

- INRAE/ CNRS
- EMBRAPA
- USP

May 2026: SOM conference in São Paulo



Soil Carbon Futures event at COP30 in Belém

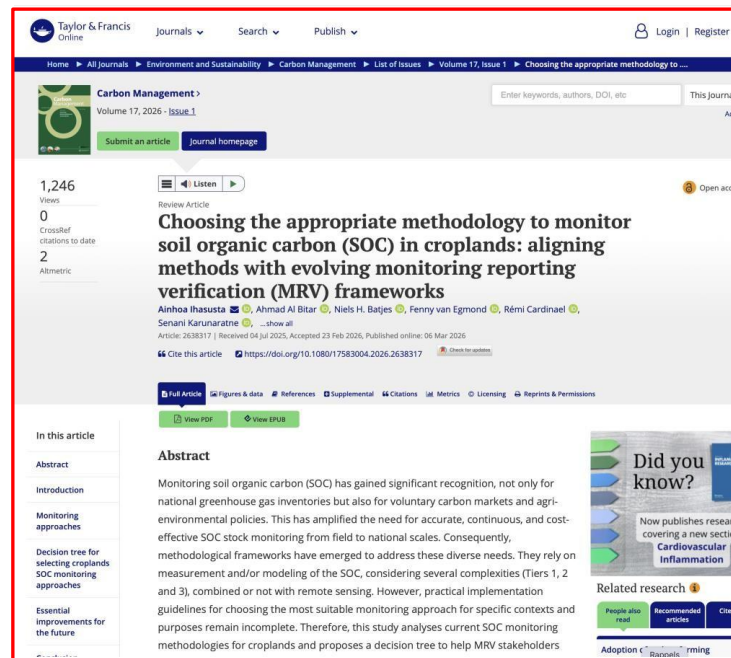
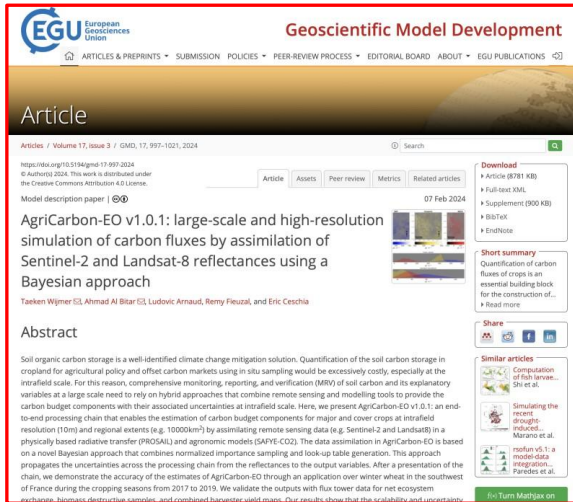
New papers since June 2025

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3 new peer reviewed publications:

- 2 on Monitoring Reporting and Verification,
- 1 on IMPACT4SOIL platform



Already more then 300
reads after just 2 months



<https://www.impact4soil.com>

Upcoming activities:

- AI projects linked with IMPACT4SOIL platform ongoing (POC) and in preparation
- New EU project (deadline march 2027) on MRV in preparation
- [Special issue of SOIL USE MANAGEMENT in preparation with SRIA topics and TAP projects](#)
- FR/BR bilateral workshop on MRV, policy and economic issues in preparation for december 2026
- [2027 : possible enlargement with other EU experts and other Latin American and Caribbean states experts in the frame of EU-CELAC current discussions](#)

[Expectations from the SCF GRA Network lead vis-à-vis GRA secretariat and CLU RG:](#)

- Cooperation on IMPACT4SOIL : practices / maps/ networks/ Datasets or Dataverses ?
- TAP activities ?
- Publication in SOIL USE MANAGEMENT

Nutrient Management Network

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Recent activities:

- Transformation of the Croplands RG Integrated Nutrient Management Network, a merger of the original Nutrient Management and Conservation Agriculture Networks.

Upcoming activities:

- Development of Nutrient Management Network research strategy, membership and potential activities.
- Stocktake of existing relevant national and international projects.

Recent activities:

- Transformation of the Croplands RG Landscape Management of Agricultural Systems and Crop-Livestock Systems Networks.

Upcoming activities:

- Development of Agricultural Systems Network research strategy, membership and potential activities.
- Stocktake of existing relevant national and international systems integration and modelling projects.



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NEXT STEPS

CLU Research Group



GRA Council Meeting, Costa Rica, July 2026

Next steps:

- Development of 3 Networks – Soil carbon, Nutrient Management, Agricultural Systems
- Development of research strategy and Key Performance Indicators

Plans for RG annual meeting:

- Soils for Europe, Coimbra, Portugal, September 2026
- CANVAS 2026 (Joint annual meeting of the American Society of Agronomy-Crop Science Society of America – Soil Science Society of America), Portland, Oregon, November, 2026.



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LRG RESEARCH GROUP

RG Representative: (Sinead Leahy)



GRA Council Meeting, Costa Rica, July 2026

Research Group Aim

The Livestock Research Group connects experts across disciplines, sectors, and regions to advance collective knowledge on agricultural greenhouse gas emissions, fostering collaboration, innovation, and evidence-based solutions for sustainable global agri-food systems.

Co-Chairs

*Sinead Leahy, New Zealand
Tommy Boland, Ireland,
Ilias Kyriazakis, United
Kingdom*

LRG Research Group *Updates*

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- The **15th annual meeting of the Livestock Research Group (LRG)** was held in Nairobi, Kenya on 10th October 2025

Participants:

44 participants in-person attendees, representing at least 29 member countries.

GRA Partners attending:

IILRI, FAO, Environmental Defense Fund, Global Methane Hub

Key outcomes/priorities for 2026:

- Explore opportunities to recruit LRG Co-Chair from the Global Majority
- Identify key LRG messages for presentation to the GMH, working through Co-Chairs and Network Leads e.g. physiology
- Strengthen integration and communication across networks e.g. summer school capability building

- Welcomed a new United Kingdom Co-Chair in February 2026, Professor Ilias Kyriazakis from Queen's University of Belfast. We acknowledge and thank the previous UK Chair, Richard Dewhurst for his many years of service and support of the GRA, LRG and its activities. We wish him the very best for the future.

LRG Research Group

Networks

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Networks	Aim	Leads
Manure Management Network (MMN)	Working to develop strategies that reduce greenhouse gas emissions from livestock manure while improving nutrient recycling and overall agricultural sustainability	Sven G. Sommer (Denmark) Hongmin Dong (China) Séga Ndao (Senegal) Daniel Girma Mulat (Kenya)
Animal Health Network (AHN)	Working to understand how improvements in animal health can help livestock systems mitigate and adapt to climate change	Nick Wheelhouse (UK) Şeyda Özkan (Netherlands)
Animal Selection Genetics and Genomics Network (ASGGN)	Exploring the impact of genetics technologies for managing livestock GHG emissions	Suzanne Rowe (NZ)
Rumen Microbial Genomics Network (RMG)	Working together to advance the understanding of the pivotal role the rumen microbiome plays in livestock agriculture	Milka Popova (France) Jana Seifert (Germany) Yanfen Cheng (China) Mercy Mulandi (Kenya)
Feed and Nutrition Network (FNN)	Focused on ruminant feed and nutrition issues in relation to greenhouse gases	Florencia García (Argentina) Sanne van Gastelen (Netherlands) David Yanez-Ruiz (Spain) Andre Bannink (Netherlands)



Recent activities:

- Five webinars
- Co-authored a review GHG emission – Africa, Winnie Ntinyari and Sonja Leitner (ILRI) Submitted.
- Identification of authors of the review/opinion paper with the working title “Identifying and addressing key research priorities for reduce nitrous oxide emissions from urine patches to support the development of effective mitigation technologies” (Tim Clough and Cecile DeKlein)
- Poster presentation about activities at GGAA conference in Nairobi.
- Two new co-Chairs both from Sub-Saharan Africa have been recruited and they are eager to contribute to Network developments

Upcoming activities:

- Webinar Series to continue
- Network will have an active participation at forthcoming EmiLi 2026 Conference, Denmark
- Discussion for the development of a Flagship proposal with Global Methane Hub have been initiated
- Support application for funding for an “intercalibration study” comparing and harmonizing different measurement technologies” could be part of the project in Africa South of Sahara which start with Demonstration and training ?
- Discuss - methods to calculate/measure “Greenhouse gas emission from the solid manure management chain”
- Work on a project aiming at developing a generic methane emission manure management chain decision support and emission calculating model
- *Contact Sven G. Sommer if you have ideas for joint Manure Management Projects and if you are interested in contributing to the mentioned projects/activities/webinars?*

Recent activities:

- Developed scientific and policy frameworks underpinning the GRA Halow Flagship proposal (presented at the State of the Science Summit, UC Davis).
- Established a strong collaboration with the Environmental Defense Fund and the Global Methane Hub, securing funding for a two-year postdoctoral research assistant.
- Working with ILRI and the Ministry of Agriculture and Livestock Development in Kenya to develop pathways for integrating animal health research into national climate policy.
- Delivered keynote presentations at international (the 9th GGAA) and national (BISAS) conferences, promoting the Network, LRG and GRA.
- Published the review paper "Livestock Health as a Climate Solution" in a special issue of *Animal* arising from the GGAA conference.

Upcoming activities:

- GRA Flagship proposal "Halow: Health Approaches for Lowering Livestock Emissions" for endorsement.
- Continued country outreach and stakeholder engagement.
- Continued implementation of the "Animal Health as a Climate Solution" project with the Global Methane Hub and the Environmental Defense Fund.
- Preparation of the manuscript "A Scientific Framework to Quantify the Impact of Animal Health on Climate, Considering Trade-offs and Co-benefits."
- Continued development of policy guidelines on integrating animal health into national climate commitments.
- Network partners hosting two CLIFF-GRADs in 2026.
- Opportunities to strengthen Network leadership through broader representation from the Global Majority are being explored.

Recent activities:

A joint ICAR Feed and Gas working group and the ASGGN held a workshop to explore genetic selection for traits associated with greenhouse gas emissions, the latest global initiatives, measurement technology and the impact of breeding schemes on reduction of emissions from livestock, 5th October 2025, Nairobi

Upcoming activities:

- Global Methane Hub's Genetic Initiative will bring together members of the Animal Selection Genetics and Genomics Network (ASGGN) for a meeting alongside the World Congress on Genetics Applied to Livestock Production Wisconsin, USA from July 12–17 2026
- A second meeting of the ASGGN is planned for the second half of 2026 somewhere in the Southern hemisphere located in a region that won't be well covered by the World Congress

Recent activities:

- Frequent newsletters (around 10 from July 2025 to July 2026) highlighting events, new publications and all kinds of community-relevant announcements.
- In-person workshop in June 2025 with ~50 people from > 10 different institutes in attendance.
- A review on early life gut establishment and opportunities :
<https://doi.org/10.1186/s42523-026-00549-6>

Upcoming activities:

- Joint RMG-HoloRuminant online workshop on standardised procedures to study rumen microbiota (planned for autumn 2026).
- In-person workshop in June 2027, to be held alongside the International Gut Microbiota Symposium in Aberdeen.
- With Mercy on board since the end of 2025, the newsletters are sent almost monthly via LinkedIn. The number of followers has more than doubled since then

Recent activities:

- Completion of the flagship project on 'Guidelines to develop antimethanogenic feed additives': 6 papers published in special issue in Journal Dairy Science
- Participation in different international conferences and workshops to disseminate the content of the guidelines
- FNN workshop at GGAA in Nairobi in which 90 people participated. In the workshop we discussed future priorities and activities of the network.
- Meeting with Environmental Defense Fund to identify common areas of interest and collaboration
- Starting to work on a transition for the coordination of the network (from David Yanez & Andre Bannink to Florencia Garcia & Sanne van Gastelen)

Upcoming activities:

- Processing the information collected at the GGAA workshop to identify 4-5 main areas of future activities for the network
- We have prepared and circulated a survey to all network members to prioritize the future activities of the network
- Engagement with African colleagues: consultation with stakeholders to better understand the needs and priorities of African colleagues, with the aim of strengthening their participation and engagement within the Network
- Course on Nutrition management to mitigate emissions in Cattle in Spain in collaboration with Eu Re-Livestock project (the course is supported by GRA and GMH)



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NEXT STEPS

LRG Research Group



GRA Council Meeting, Costa Rica, July 2026

Next steps:

2026-2027

- Facilitate dialogue among scientists from different GRA member nations to increase membership and involvement in networks and LRG, especially from Global Majority
- Co-Chairs and Network Leads facilitating and fostering the development of concepts/flagships, consortia and proposals for GRA partner organisations

Plans for RG annual meeting:

Aim to organise an online annual meeting towards the end of 2026 (Oct/Nov TBC). The online meeting is planned to encourage broader representation at the meeting from our member countries.