GLOBAL RESEARCH ALLIANCE

ON AGRICULTURAL GREENHOUSE GASES

10 November 2016

SECRETARIAT UPDATE

MEMBERSHIP

GLOBAL RESEARCH ALLIANCE
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46 Member Countries

- Argentina
- Australia
- Belgium
- Bolivia
- Brazil
- Canada
- Chile
- China
- Colombia
- Costa Rica
- Denmark
- Dominican Republic
- Ecuador
- Egypt
- Finland
- France
- Germany
- Ghana
- Honduras
- Indonesia
- Italy
- Ireland
- Japan
- Korea
- Lithuania
- Malaysia
- Mexico
- Nicaragua
- Netherlands
- New Zealand
- Norway
- Panama
- Paraguay
- Peru
- Philippines
- Poland
- Spain
- Sri Lanka
- Sweden
- Switzerland
- Thailand
- Tunisia
- United Kingdom
- United States
- Uruguay
- Vietnam

PARTNER ORGANISATIONS

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CLIMATE & CLEAN AIR COALITION
TO REDUCE SHORT-LIVED CLIMATE POLLUTANTS

ALLIANCE COUNCIL

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- The GRA Council meet 8-11 September 2015 in Des Moines, Iowa, USA.
- Agreement to develop a GRA Strategic Plan.
- Decision to enhance the GRA Secretariat and appoint a Special Representative.

- The 2016 Council meeting was held in Mexico City, 11-12 October 2016.
- Finalisation of the GRA 2016-2020 Strategy.
- Identification of GRA research priorities “Flagships”

SPECIAL REPRESENTATIVE

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Representative role

- Appointed May 2015 - two year pilot
- Lift the profile of the GRA with
  - Members,
  - Partners,
  - non-profit organisations,
  - Research funders,
  - and others in the international community.
- Reports to the GRA Council

STRATEGIC PLAN 2016-2020

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- Four Key Strategies:
  1. Further Research Collaboration
  2. Foster Outreach, Knowledge Sharing and Information Exchange
  3. Build Effective Partnerships
  4. Leverage Financial and Other Resourcing
- Strategic Objectives support each Key Strategy
- 50 Actions – in an operational plan
- Snapshot of activities

STRATEGIC PLAN 2016-2020

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Key Strategies

Further Research Collaboration	Foster Outreach, Knowledge Sharing and Information Exchange	Build Effective Partnerships	Leverage Financial and Other Resources
Strategic Objectives	Strategic Objectives	Strategic Objectives	Strategic Objectives
The GRA has achieved broad global participation in research cooperation and investments to help develop relevant practices and technologies. The GRA has built global expertise in relevant knowledge and technologies. The work of the GRA is efficient, effective, and coherent.	There is broad awareness of the GRA's work, particularly its research results and impacts, through an integrated outreach strategy. There is increased availability and accessibility of research results to relevant stakeholders, including farmers. There is widespread adoption of relevant practices and technologies.	The GRA is well connected with other initiatives that carry out activities relevant to GRA work and objectives.	The GRA has strong and ongoing financial and other resources to support its activities and Research Groups, including through multilateral development banks and private and philanthropic organisations. GRA Members and Partners will invest in research and capability building relevant to the GRA mandate, and develop effective mechanisms for resourcing and coordinating collaborative research.

Strategic Plan – Research Group Priority Actions

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- Encourage an increase in the number and types of scholarships for studies and training available to GRA Members
- Ensure that all Research Groups establish regularly scheduled teleconferences.
- Encourage Members to report on their activities relevant to the Research Group work plans ahead of Research Group annual meetings.
- Promote appropriate integration of research across the Research Groups.
- Publish outputs of the GRA Research Groups and Networks on the GRA website and encourage dissemination of data and research results via other fora.
- Engage GRA Partners during the development of GRA Research Group plans.
- Identify possible GRA Flagship Research Projects for presentation to and review by the Council for potential adoption on an annual basis.
- Undertake GRA joint programming on an annual basis, beginning no later than August 2017, to support collaborative research, including GRA Flagships.

Developing Research Priorities

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Identified weaknesses of the GRA:

- Lack of Connection between GRA Council and GRA Research Groups
- Often there is a lack of funding for Research Group activities

GRA International Research Collaboration Working Group meeting in Brussels identified the importance of identifying and clearly articulating priorities as a way to better mobilize and target resources.

What is a GRA flagship project?

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- Addresses a critical research and/or capability building need of the GRA
- Provides unique GRA value-add, by making a major contribution to:
  - Reducing greenhouse gas emissions while supporting food security
  - Advancing global knowledge through collaboration
  - Supporting countries in their developing and implementing solutions
- Facilitates engagement by a broad range of GRA Members and Partners
- Has indicative resources identified (in-kind or cash)
- Clearly identifies milestones and deliverables

→ Note that flagship projects are designed to attract additional resources and to enhance the existing work programmes of the Research Groups

1. On-farm assessment of multi-beneficial water management techniques in the rice sector

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FOCUS: Validating alternate wetting and drying (AWD) irrigation in farmers' fields confirming no yield penalties.

ACTIVITIES / KEY COMPONENTS:

- Research around the globe confirmed that AWD sharply reduces CH4 emissions, water consumption, production costs and arsenic in the grain

- Going from research to massive adoption
  - ❖ Identifying appropriate AWD for each rice system
  - ❖ Validation plots installed in commercial fields of innovative farmers in different countries
  - ❖ Emissions, water consumption, costs, arsenic in grain and yields recorded
  - ❖ Results documented and shared
  - ❖ Regional networks expand the techniques to other countries and regions

2. Improved GHG inventories: Making them count

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FOCUS: Supporting countries to advance their GHG inventories for agriculture

ACTIVITIES / KEY COMPONENTS:

- Improved quantification of mitigation actions
- Summary of current inventory practices and country experiences of adopting improved methodologies
- Develop guidance for improving inventories
- Targeted training and technical support for inventory improvement and for using inventory to support national climate change actions
- Dissemination & development of emissions data and factors to improve inventory development

3. Enteric fermentation mitigation hub

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FOCUS: Practices that increase the productivity and reduce enteric methane emissions intensity of ruminant livestock

ACTIVITIES / KEY COMPONENTS:

- Assess potential for productivity-based interventions to reduce emissions intensity
- Links science to farm-level implementation
- Assess options, barriers and enabling factors
- Implement appropriate interventions in demonstration sites
- Demonstrate success in supporting policy
- Supported by open global databases for wider benefits:
  - ❖ Database on feed options and their effects on productivity, GHG, costs
  - ❖ Influence of rumen microbial communities on productivity under different feeds
  - ❖ Etc…

4. Soil carbon sequestration

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FOCUS: Agricultural practices that sequester carbon and restore soil quality

ACTIVITIES / KEY COMPONENTS:

- Assess potential and dynamics of carbon sequestration in crop and pasture systems and interactions with nitrogen
- Identify practices for soil C sequestration
- Assess co-benefits for yields, water balance, and non-CO_2 greenhouse gases
- Monitoring, verifying and reporting soil organic carbon stocks
  - ❖ Improvement of technical tools (e.g. maps) through and carbon calculators
  - ❖ Improving national GHG inventories by integrating soil organic carbon stock changes
- Development of web-based knowledge hub to support national action plans

Flagships – next steps

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- Establishment of Task Forces to transform each of the proposals into fully scoped projects ready to be implemented.
- Excellent opportunity to align Council members' domestic research programmes and Partner activity to the Flagships and to utilise upcoming research calls, both of the GRA and of GRA Partners and other organisations, to provide funding for the flagship proposals
- Seeking from Members and Partners:
  - interest in being actively involved in one or more of the Task Forces to advance the four flagship proposals.
  - interest to provide seed funding to ensure that there are sufficient resources to advance the process.
  - willingness to provide operational funding to implement one or more of the flagship proposals. This can include, research grants, research calls, in-kind contributions.

Healthy and resilient livestock systems

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FOCUS: Reduce emissions by Animal Health Care (mitigation); Improve Animal Health Care by busing more resilient Livestock systems (adaptation)

ACTIVITIES / KEY COMPONENTS:

- Global Assessment of Disease Incidence
- Early Diagnostics
- Breeding, Feeding and Farming for Resilience
- Regional specific mixed intervention options from veterinary and zoo-technical perspective
- Capability development
- Animal Health by Resilience support Hubs

Nitrogen

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FOCUS: Optimising nitrogen's role in sustainable food production

ACTIVITIES / KEY COMPONENTS:

- science-based knowledge to help reduce nitrogen losses from agriculture and livestock systems
- Role of legumes in pasture systems
- Quantifying biological nitrogen fixation
- Novel mitigation technologies and practices
- Maximising utilisation of nitrogen in feed
- management of crop residues and animal waste to reduce nitrogen losses
- Crop and grazing management to maximise N uptake by plants
- Grazing management to manage direct N losses by animals
- Links across many GRA Research Groups and Networks

Integrating mitigation & adaptation actions for agriculture

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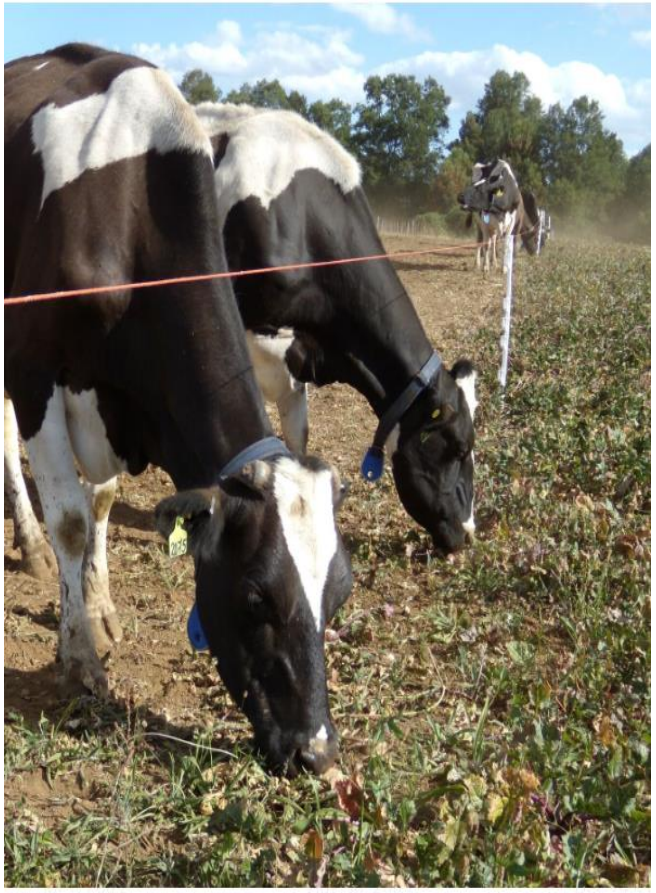
FOCUS: Supporting assessment of impacts and adaptation to climate change, and quantifying the mitigation benefit of targeted adaptation responses

ACTIVITIES / KEY COMPONENTS:

- Regional assessment of potential increases in emissions intensity under scenarios of climate change impacts on food production systems
- Regional assessment of mitigation (co)benefits of avoided impacts and successful adaptation practices for agriculture
- Guidance on methodologies for quantification, cost-benefit analysis and other metrics
- Sharing of experiences with developing policies and implementation of practices that unlock synergies between adaptation and mitigation
- Technology transfer and communication strategies and tools to demonstrate integrated mitigation and adaptation strategies and their benefits at global, national, and farm scales.



Facilitating GHG mitigation research through a searchable online meta-database

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FOCUS: Connecting the generation of data on mitigation of agricultural GHGs with users of that data

ACTIVITIES / KEY COMPONENTS:

- Create a searchable, online meta-database of experimental sites where GHG fluxes and soil carbon dynamics have been monitored, summarized, and published.
- Develop interface allow users to download metadata from experimental sites
- Access to site metadata focused on relevant attributes will facilitate efficient identification of experimental sites for possible inclusion in GHG mitigation modeling efforts and meta-analyses, thereby saving time and resources.

Identification of high yielding rice cultivars with low methane emissions

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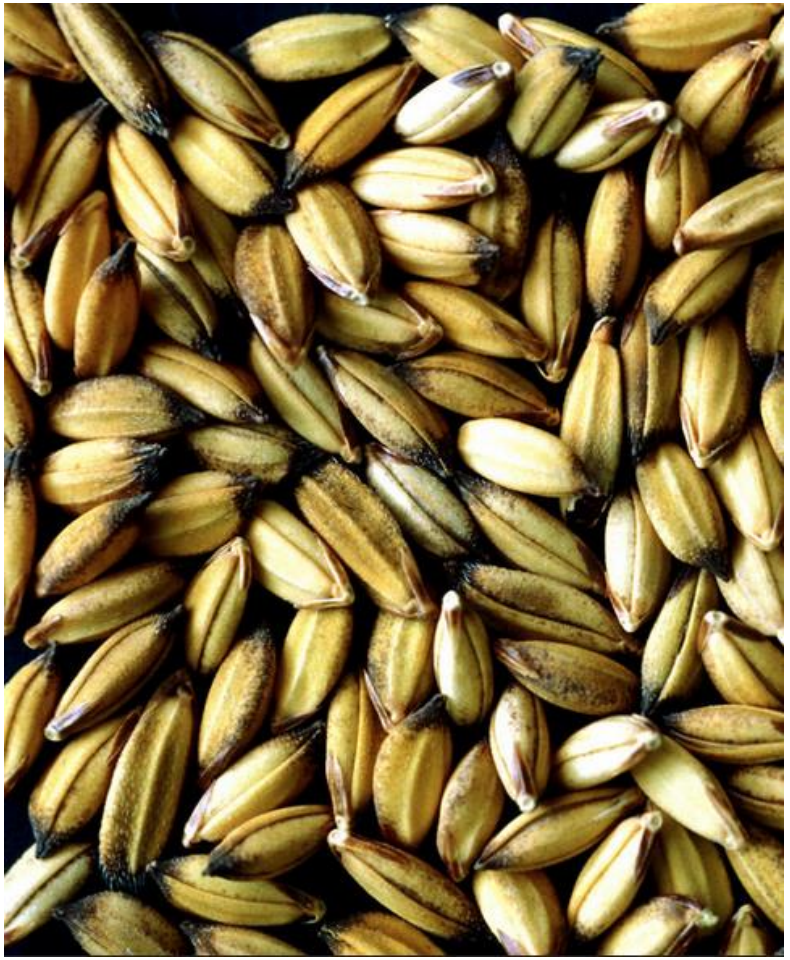
FOCUS: Supporting the selection of high yielding rice cultivars with low methane emissions around the world

ACTIVITIES / KEY COMPONENTS:

- Understand the rice plant controlling factors affecting CH_4 emission by meta-analysis of published data and new experiments;
- Identify high yielding rice cultivars with low CH_4 emission;
- Outreach the knowledge further to policy-makers, breeders and local farmers through workshops and other communication tools.



RESEARCH GROUPS

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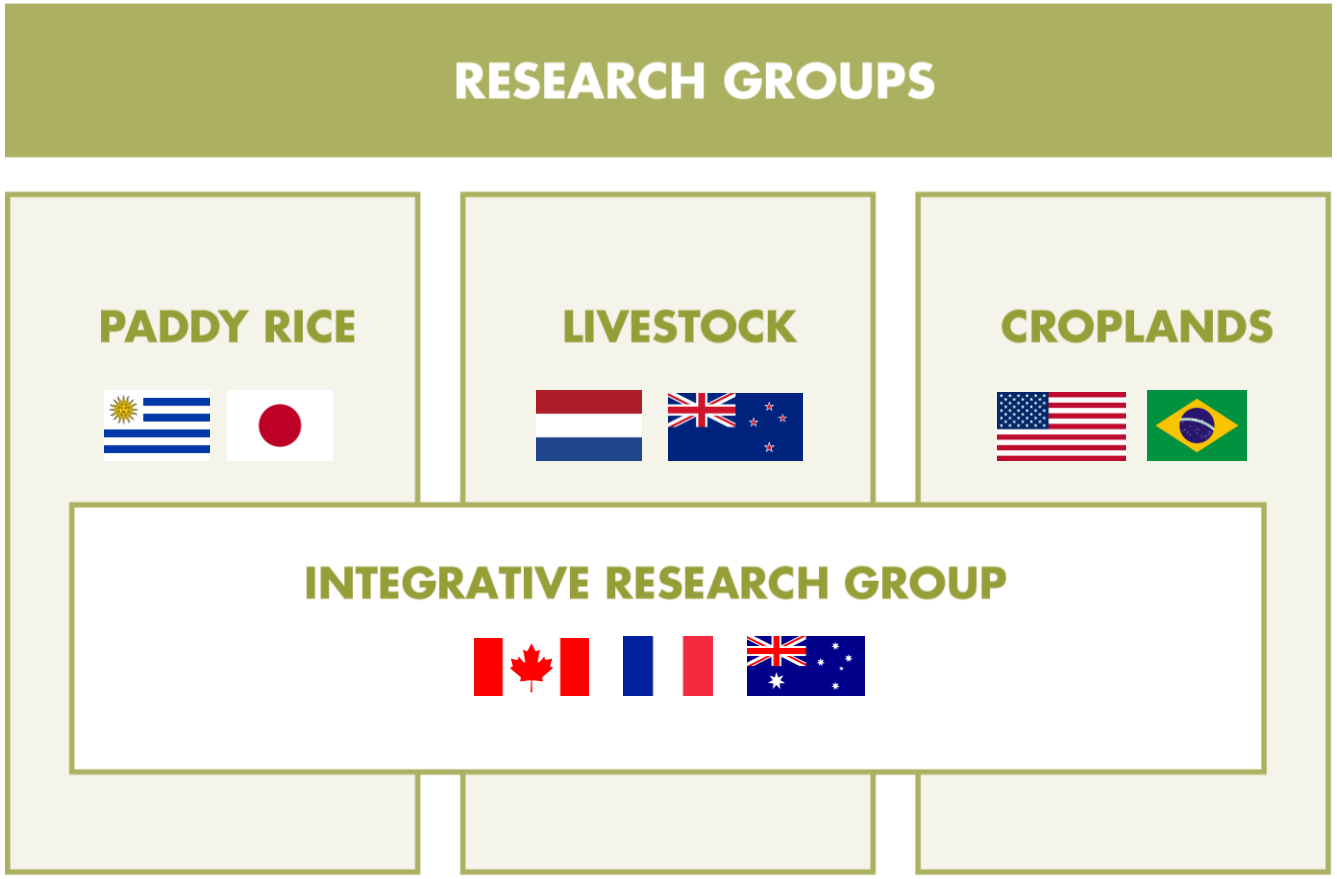

RESEARCH GROUPS

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Priorities and Outcomes 2016

- Third Co-Chair for Research Groups – CRG Chair
- Establish an International Research Call for the GRA – IRC and joint programming
- Hold a GRA Conference / event alongside a high profile agricriculture meeting (e.g. FAO, G20)
- GRA Website development – pages for Networks

FORMING SCIENCE NETWORKS

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RESEARCH NETWORKS

CROPLANDS

- Agroforestry
- Conservation agriculture
- Crop-livestock systems
- Irrigation efficiency
- Nutrient management
- Landscape management
- Peatland management

LIVESTOCK

- Animal genetics & genomics
- Feed and nutrition
- Manure management
- Rumen microbial genomics
- Animal health
- Mediterranean systems

PADDY RICE

- Asia sub-Group
- America sub-Group

INTEGRATIVE

- Grasslands
- Field scale modeling
- Soil carbon sequestration
- Farm and regional scale modeling
- GHG Inventories

LIVESTOCK RESEARCH GROUP

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Co-Chairs

- Harry Clark, NZAGRC, New Zealand
- Martin Scholten, Wageningen UR, the Netherlands

Group Activities

- Country case studies to showcase where mitigation practices are bring successfully used.
- Establishing a Mediterranean Livestock Systems Network
- Contributing to a joint enteric methane project with FAO, CCAC and LRG.

Next Meeting

- April 2017, Washington DC, US

PADDY RICE RESEARCH GROUP

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Co-Chairs

- Kazuyuki Yagi, NIAES, Japan
- Gonzalo Zorrilla, INIA, Uruguay

Group Activities

- Measurement Guidelines

http://globalresearchalliance.org/wp-content/uploads/2016/03/mirsa_guidelines.pdf

- Multi-country projects
- Database of publications and experts

Recent / Next Meeting

- America sub-Group, Stuttgart AK, US July 2016
- Asia sub-Group, *tbc*

INTEGRATIVE RESEARCH GROUP

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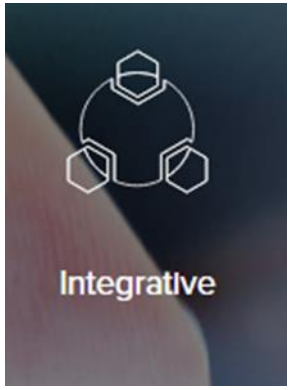

Co-Chairs

- Brian McConkey, Agriculture and Agri-Food Canada
- Lee Nelson, Department of Agriculture, Australia
- Jean-François Soussana, INRA, France

Group Activities

- Merges activities of the Soil Carbon and Nitrogen, and Inventories and Measurement Cross-Cutting Groups
- Five Networks, scoping activities and developing workplans
- Participation in meetings of all Research Groups

Next Meeting

- 19-20 January 2017 Rome, Italy.

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FOR MORE INFORMATION

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