

# GLOBAL RESEARCH ALLIANCE

ON AGRICULTURE ON AGRICULTURAL GREENHOUSE GASES

LRG Annual Meeting, Lyon, France

1 September 2023



## Livestock Research Group Report

Richard Dewhurst, Tommy Boland, Sinead Leahy



# LIVESTOCK RESEARCH GROUP

Irish co-Chair of the Livestock Research Group

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University College Dublin  
An Coláiste Ollscoile, Baile Átha Cliath



An Roinn Talmhaíochta,  
Bia agus Mara  
Department of Agriculture,  
Food and the Marine

- Prof. Tommy Boland
- Assoc. Dean or Research, Innovation and Impact, School of Agriculture and Food Science, UCD.
- Member EU Agri methane emissions expert group
- Secretary Livestock Farming Systems Commission, EAAP
- President Agricultural Science Association
- Research: Enteric methane mitigation, nitrogen excretion, grazing systems including MSS. Dairy, beef and sheep
- GRA: FNN participant, contributor to global CH4 databases
- Participation supported by Department of Agriculture Food and the Marine

# LIVESTOCK RESEARCH GROUP

New Zealand co-Chair of the Livestock Research Group

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- Dr Sinead Leahy
- Principal Scientist at the New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC), New Zealand
- Research: rumen microbiology, biochemistry, bioinformatics, agricultural greenhouse gas mitigation research, climate change and policy
- GRA: Co-lead of the completed GRA LRG Flagship Hungate1000 <https://www.nature.com/articles/nbt.4110>
- Contributing author, AR6 Intergovernmental Panel on Climate Change (IPCC) Chapter 7: Agriculture, Forestry, and Other Land Uses (AFOLU)
- Participation funded by the New Zealand Government in support of the Global Research Alliance on Agricultural Greenhouse Gases

# LIVESTOCK RESEARCH GROUP LAST ANNUAL MEETING

**14<sup>th</sup> Annual Livestock Research Group annual meeting** (Virtual): 18-20 October 2022

## Full report available:

<https://globalresearchalliance.org/library/livestock-research-group-annual-meeting-october-2022/>

## Co-Chairs:

Sinéad Waters (Ireland),  
Richard Dewhurst (United Kingdom)  
Jon Tanner (New Zealand)

## Participants:

106 participants, from 43 member countries  
and 4 partner organisations.

## Main themes:

Methane metrics and data systems.

Challenges facing global organisations in responding to the challenges of climate change.

## Some discussion points:

- Livestock complex and underpin livelihoods.
- Private industry can play a role in GRA.
- Need to support LMICs and be conscious of language barriers.
- Networks are the engine-room of the LRG – collaboration critical to find solutions.



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## AGENDA and OBJECTIVES FOR THIS MEETING

### Agenda:

- Opening Remarks
- Identifying opportunities to work together in Africa.
- Partner Updates – including CCAC, CCARDESA, CGIAR/ILRI, FAO & GMH
- Working together to support the LRG's Networks
- Working together to support the GRA's research Flagships
- Working together: the LRG in 2023 and beyond – 2024 Work Plan

### Objectives:

#### 2024 Work Plan for the LRG

Pursue opportunities and address challenges shared across countries.....

Particularly - how to engage better with Africa?  
possibility of regional networks and meetings?

Support priorities coming from the Networks and Identify potential Flagship projects from our disciplines – must be inclusive and supported by a range of member countries

Identify other opportunities to collaborate, build new partnerships and engage more actively in international initiatives (working with GRA Special Representative)

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## RECENT ACHIEVEMENTS

### **Global Dairy Platform P2DNZ: Pathways to Dairy Net Zero project:**

- Led by large dairy processing companies around the world.
- GRA team working with FAO to define dairy typologies, model GHG emissions and mitigation pathways spatially.
- New work: examining barriers to uptake of mitigations in different countries and systems, as well as modelling warming effect of different mixes of GHG and mitigations.

### **Funding: *Successful Ireland – New Zealand funding calls***

- In May 2022, the Irish Ministry for Agriculture (DAFM) and NZ Ministry for Primary Industries launched the 2022 Joint Call for Research Proposals
- Theme: ‘Strategies, technologies and novel systems to reduce and account for greenhouse gas emissions from agriculture ruminant production systems’.
- €3.6M was awarded to fund 4 collaborative projects.
- Evaluation of proposals submitted to the 2023 call is underway.

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## MAIN AMBITIONS

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### Continued Support of networks

Significant support to help networks – especially those without major core projects.

### Links with policy

Building on a recent successful meeting with NZ Minister of Agriculture.

### Refreshing leadership

New leadership/deputy leadership brings new ideas in MMN and RMG.

### Funding

Build on success of the 2022 NZ-IE call.  
Global Methane Hub – help align to flagships and networks.

### Network Activity

Facilitate **dialogue among scientists** from different GRA member nations to increase membership and involvement in networks, especially from Africa, Asia and South America...





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## RECENT ACHIEVEMENTS

### Delivery from Networks

#### Animal Selection Genetics and Genomics Network

Meeting at WCGALP in Rotterdam (summer 2022). Workshops occurred linked to work on methane proxies.

Global effort in the areas of methane proxies and breeding for low emitters.

#### Rumen Microbial Genomics Network

Funded collaborative projects – **MASTER** and **HoloRuminant**.

Building GRA Flagship ‘culturomics’ project – funding from Global Methane hub and Schmidt Futures.

RMG workshop: Rowett/INRAE gut microbiology meeting in Aberdeen (June 2023) - Seeking a deputy lead.

#### Animal Health Network

- Co-leads met INDC Network co-leads
- Plan to hold joint workshops (in series) on challenges around data, types of models, policy integration of aspects related to animal health and climate change.
- Co-leads met with representatives of ILRI and the Mazingira Centre (Kenya) to promote the network in East Africa and discuss ongoing work in the region.
- Organizing an interdisciplinary workshop to draft a COST proposal.
- Selected AHN members reviewed the FAO report “The role of animal health in national climate commitments”.
- Report was led by the AHN co-lead Şeyda Özkan.





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## RECENT ACHIEVEMENTS

### Delivery from Networks

#### Feed and Nutrition Network

'Feed additives' flagship project held two online workshops (November 2022) to scope out 'technical guidelines for developing feed additives' led by David Yanez Ruiz (CSIC, Spain) and Andre Bannink (Wageningen, Netherlands).

Paper published: 'Prediction of enteric methane emissions by sheep using an intercontinental database' in Journal of Cleaner Production.

Refined intercontinental database included 2,135 individual animal data from 13 countries.

#### Manure Management Network

Seeking new chair

Survey to gauge future research priorities and exploring the possibilities of a GRA Flagship in the area of feed quality/manure management/GHG emissions.

Considering a possible broadening of the scope to cover all value from manure (anaerobic digestion; new processes?). This will be discussed with the new lead.

Linking many other projects around the globe – refining inventories; investigating mitigation technologies; improving nutrient efficiency and informing policy.

