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RESEARCH
ALLIANCE

ON AGRICULTURAL GREENHOUSE GASES

Rumen Microbial Genomics Network

Summary of relevant activities, future
priorities and capability needs

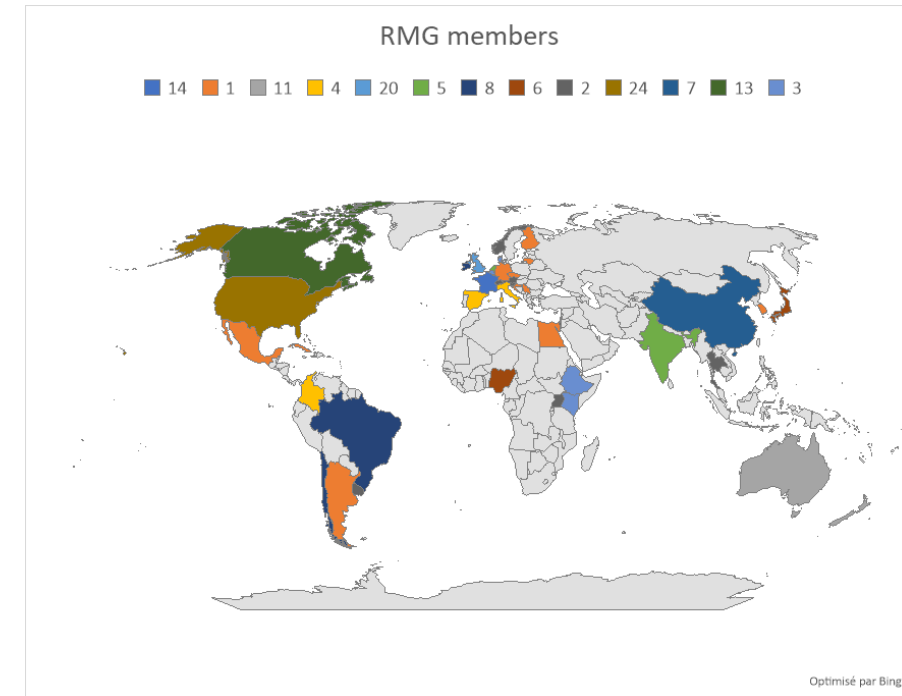
Input to 2025 Livestock Research Group Meeting
Nairobi, Kenya

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RMG NETWORK
RUMEN MICROBIAL GENOMICS NETWORK

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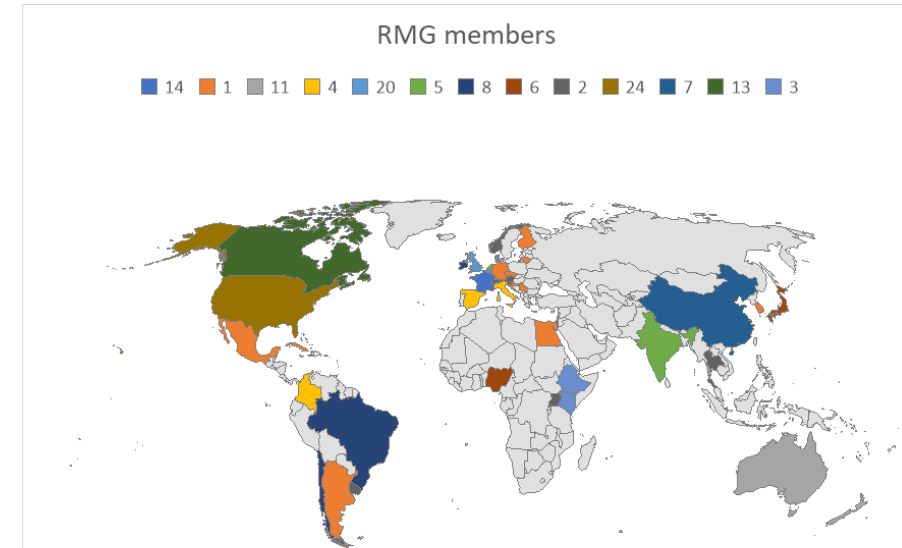
Relevant activities

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- **Newsletters (3-4 times a year)**
 - Covered topics : events, publications, labs, projects
 - 204 members, 130 institutes, 44 countries
 - Shared research insights with the Anaerobic Fungi Network (AFN) to advance collaborative studies
- **RMG publication repository**
 - relevant topics: CH₄ mitigation, rumen microbiology, early life, nutrition
 - frequently updated by co-chaires
 - accessible & editable by everyone



DOI	Year	Journal	Topic	Authors	Keywords
https://doi.org/10.1186/s42523-024-00343-2	2024	anim microbiome	Methane mitigation	Martinez-Fernandez, G., Denman, S.E., Walker, N.	Early life interver
https://doi.org/10.1016/j.livsci.2024.105590	2024	Livestock Science	Methane mitigation	Mingbo Ni, Mariano C. Parra, Alex V. Chaves, Sara	Holstein, microbi
https://doi.org/10.1186/s12915-024-02035-4	2024	BMC Biol	Rumen microbiology	Guo, W., Zhou, M., Li, F. et al.	Rumen microbi
https://doi.org/10.1186/s40168-024-01943-5	2024	Microbiome	Early life	Zhuang, Y., Liu, S., Gao, D. et al.	Enterotype, Micr
https://doi.org/10.1186/s42523-024-00348-x	2024	anim microbiome	Nutrition	Ortiz-Chura, A., Popova, M. & Morgavi, D.P.	Ruminant microk
https://doi.org/10.1038/s41467-024-54025-3	2024	Nat Commun		Mi, J., Jing, X., Ma, C. et al.	Archaeal genomi
https://doi.org/10.1186/s40168-024-02018-1	2025	Microbiome	Methane mitigation	Li, Q., Huo, J., Ni, G. et al.	Molecular hydrog
https://doi.org/10.1111/jpn.14092	2025	Animal Physiology & Nutrition		Theresa Gruber, Claudia Lang, Katerina Fliegerová	anaerobic fungi,
https://doi.org/10.3168/jds.2024-25713	2024	Journal of Dairy Sci	Rumen microbiology	Tim A. McAllister, Yanfen Cheng, Krystv D. Thoma	anaerobic fungi.

Relevant activities

- ***2024 RMG Workshop: “Implications of the Nagoya Protocol for Researchers Working with Biological Material from Abroad”***

 Hosted by: German Nagoya Protocol Hub

 November 21st, 2024 | Time: 1:00-3:00 PM

 ~30 participants from around the world joined the webinar.

 Key topics covered:

- Compliance with the Nagoya Protocol & EU ABS regulation
- Checks in Germany and consequences of non-compliance
- Practical tools and tips for researchers

 Q&A session at the end for further clarification.

Relevant activities

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- **2025 RMG in person Workshop**

🏠 *Clermont-Ferrand France*

📅 *June 2nd, 2025 | Time: 2:00-5:30 PM*

👥 *~50 participants from around the world*

📖 *Key topics covered:*

- *Complex interactions of hydrogen metabolism*
- *Rumen microbes adaptation to novel feeds*
- *Update on strategies to mitigate methane emissions*

🎤 *Speakers from : USA, NZ, China, Canada, UK, France*



Future priorities

- *Literature reviews*
 - ***Harnessing the early-life rumen microbiome for sustainable ruminant production***
(Limei Lin, Milka Popova, Ilma Tapio, Le Luo Guan, Jana Seifert) => to be submitted shortly
 - *Extending knowledge on rumen microbes: qualitative/quantitative evidence synthesis of genomic data from public repositories (metagenomes/MAGs); meta-analysis type review (Y. Cheng) => work in progress*
- *A session in the next EAAP Conference : **"Animal microbiomes - moving forward from taxonomic to functional information"** : under construction*