

CAN_{N₂}O_{NET}

Inaugural Meeting

July 4, 2022

ATTENDEES

Mario Tenuta (U Manitoba)
Bharat Shrestha (AAFC)
Brian Grant (AAFC)
Chang Liang (ECCC)
David Burton (Dalhousie U)
David Pelster (AAFC)
Erin Daly (U Alberta)

Faezeh Parastesh (U Manitoba)
M Junaid Afzal (U Manitoba)
Kirsten Hannam (AAFC)
Kody Oleson (U Manitoba)
"Lenovo"
Richard Farrell (U Saskatchewan)
Roland Kröebel (AAFC)

Sakshi (U Manitoba)
Sandra Yanni (AAFC)
Shabtai Bittman (AAFC)
Tristan Skolrud (U Saskatchewan)
Ward Smith (AAFC)
Xiaopeng Gao (U Manitoba)
Yufeng Wu (U Manitoba)

Learn more about canN₂O_{net} members on its [website](#).

N₂O Researchers Need a Project Catalogue & Dataset Repository

Uniform and Geo-tagged Data Presentation

- Uniform presentation of data via a standard template would facilitate meta-analysis
- Linking the database to a geo-tagged map of Canada would make it easy to see what research has been / is being conducted and where
 - o Such a database would enable strategic identification of what research is being conducted and where to gather information and reduce emissions more efficiently

Uncomplicated Data Submission

- A complicated / tedious submission process will deter people from submitting their data, so what basic data is considered fundamental to the success of this database?
 - o Submitting data to the [Global Research Alliance database](#), run out of Colorado State under the guidance of Rick Conant, is onerous, but can provide a starting point to develop a Canadian version
 - o Knowing what data modellers consider "must-haves" and "nice-to-haves", would help researchers better understand what is needed to build an accurate model of emissions

Flexible Level of Detail

- Upon initial submission, require only a project name / short description and point-of-contact
 - o This would form an N₂O project catalogue
 - o Not requiring a high level of detail would allow busy researchers to at least broadcast their work, so others can see what is being done and know what data is being collected
- Allow submissions to be updated, so researchers can share their data after they have published / when it is in a presentable form
- Include links and references to public reports and peer-reviewed literature

Searchable

- Categorize research in terms of management practice type, crop, etc.

New N₂O Researchers Need Resources

Minimum Requirements rather than Standard Methods

- New researchers wade through a plethora of publications and come across many different methods - but in the end, there are many reasons why different methods are used
- Instead of standard methods, there should be minimum requirements in terms of chamber size, frequency of sample collection, etc.
 - o A New Zealand report on greenhouse gas emissions included minimum requirements on chamber design, sampling frequency, not to fill in data between sampling dates – this could be used as framework for developing a similar document for N₂O research in Canada

Experienced Researchers Can Mentor New Researchers

- A moderated message board can provide a place for new researchers to ask questions and be directed to fellow researchers

N₂O Research Gaps

- Through the project catalogue and data repository, canN₂Onet can help identify research gaps and where the greatest needs for future research
- Funding agencies often look for third-party identification of research gaps

Workshops & Presentations

- canN₂Onet can host national presentations / workshops and piggyback on conferences, such as CSSS, to host seminars
 - o these would create networking and discussion opportunities to help with research gap analysis

Future Considerations

- Connect with Living Labs in other provinces
- Should canN₂Onet take on the responsibility of making information accessible to the industry, farmers, and the public?
- Consider expanding the network to include researchers from other non-agriculture systems, such as forestry

Conclusion

Our next meeting will likely be in September and will focus on the project catalogue and research gaps.